

David Lukacik

MSc Student in Cognitive Science
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Education

UMEÅ UNIVERSITY	<i>Umeå, Sweden</i>
MSc in Cognitive Science <i>Thesis:</i> TBD <i>Advisor:</i> Dr. Paolo Medini	
ARIZONA STATE UNIVERSITY	<i>Tempe, USA</i>
BS in Neuroscience & BA in Philosophy (Science, Nature, and Mind) Minor in English (Linguistics) <i>Summa Cum Laude</i> ; Barrett, The Honors College <i>Honors Thesis:</i> Investigating the Coordinated Role of the Hippocampus and Cerebellum in Spatial–Social Processing	

Research Interests

Cerebellar circuits underlying social cognition, flexible behavior, and fine-motor control; hippocampal-cerebellar communication in spatial and socio-cognitive processing; cortical microcircuit physiology and sensory gating with implications for schizophrenia and neurodevelopmental disorders; developmental trajectories of sensory processing; consequences of early-life cerebellar and cortical injury on cognitive and behavioral development, especially in pediatric neurotrauma.

Research Experience

2025–Present	Graduate Research Assistant Physiology of Cortical Microcircuits Lab	<i>Umeå University, SE</i>
	Extending a sensory gating paradigm to investigate the temporal dynamics of cortical inhibition and its disruption in schizophrenia; work forms the basis of master’s thesis. The lab uses <i>in vivo</i> electrophysiology, two-photon calcium imaging, and optogenetics. <i>Supervisor:</i> Dr. Paolo Medini - Department of Medical and Translational Biology	
2022–2025	Undergraduate Research Assistant SOCIAL Neurobiology Lab	<i>Arizona State University, Tempe, USA</i>
	Investigated cerebellar circuits involved in social cognition, flexible behavior, and fine-motor control using rodent models. Responsibilities included behavioral assay design and refinement, rodent handling and genotyping, pose estimation and image analysis, and data analysis. Contributed to manuscript preparation and conference presentations. <i>Supervisor:</i> Dr. Jessica Verpeut - Department of Psychology	
2024–2025	Undergraduate Honors Thesis Barrett, The Honors College	<i>Arizona State University, Tempe, USA</i>
	Designed and executed original study of hippocampal-cerebellar coordination in spatial–social processing. Developed behavioral protocols, conducted rodent testing, analyzed data; defended orally March 2025. <i>Committee:</i> Dr. Jessica Verpeut (chair), Dr. Federico Sanabria, Dr. Yi-Mei Yang	
2022–2023	Undergraduate Research Assistant Conflict & Cooperation Lab	<i>Arizona State University, Tempe, USA</i>
	Conducted systematic literature reviews and quantitative data analysis on projects at the intersection of evolutionary biology and human social behavior. <i>Supervisors:</i> Dr. Athena Aktipis & Dr. Cristina Baciú - Department of Psychology	

2022	Undergraduate Honors Research Fellow Culture, Health & Environment Lab Barrett, The Honors College research fellowship. Engaged with mixed-methods research on cultural and environmental determinants of health. <i>Supervisors: Dr. Alexandra Brewis & Dr. Amber Wutich</i>	<i>Arizona State University, Tempe, USA</i>
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Clinical Experience

2024–2025	Emergency Department Technician Phoenix Children's Hospital Arizona's only ACS-verified Level I Pediatric Trauma Center. Member of trauma, resuscitation, and code teams; assisted clinical providers in acute and emergency care across a high-acuity pediatric patient population.	<i>Phoenix, USA</i>
2023–2024	Patient Care Technician Phoenix Children's Hospital Care Area 8: hepatology, nephrology, neurosurgery, transplant services, and the Pediatric Epilepsy Monitoring Unit. Provided direct patient care under nursing supervision; documented clinical observations and communicated patient needs across the care team.	<i>Phoenix, USA</i>

Teaching Experience

2022-2025	Senior Teaching Assistant Department of Psychology Senior teaching assistant for Dr. Lynda Mae. Courses: PSY 101 Introduction to Psychology, PSY 310 Consumer Psychology, PSY 315 Personality Theory and Research, PSY 309 Sleep and Dreaming. Primary responsibilities included office hours, grading, and student correspondence.	<i>Arizona State University, Tempe, USA</i>
2022	Learning Assistant College of Liberal Arts and Sciences Course: LIA 101 (First-Year Success Course). Co-led and independently led weekly sessions covering academic resources, transcript planning, and college success skills for first-year students.	<i>Arizona State University, Tempe, USA</i>

Research and Publications

Journal

- [1] Melick A, **Lukacik D**, Chawla S, Schaefer SY, Beeman SC, & Verpeut JL. A Fine Motor Task to Study Joint Kinematics in a Preclinical Model of Neurodegenerative Disease. *Journal of Visualized Experiments*, (220), e68128, 2025. doi:10.3791/68128

Theses

- [2] **Lukacik D**. Investigating the Coordinated Role of the Hippocampus and Cerebellum in Spatial-Social Processing. *Undergraduate Honors Thesis*, Arizona State University Library KEEP, 2025.

Presentations

- [3] **Lukacik D**. Investigating the coordinated role of the hippocampus and cerebellum in spatial-social processing. *Oral thesis defense*, Department of Psychology & Barrett Honors College, ASU, March 2025.
- [4] **Lukacik D**. Investigating the coordinated role of the hippocampus and cerebellum in spatial-social processing. *Invited lightning talk*, Interdisciplinary Neuroscience Symposium, ASU, April 2024.

Posters

- [5] **Lukacik D**. Investigating the role of the hippocampus in spatial-social processing. Barrett Celebrating Honors Thesis Symposium, ASU, April 2025.
- [6] **Lukacik D**, Melick A, Schaefer SY, Beeman S, & Verpeut JL. Development and validation of a novel fine motor task for preclinical analysis of dexterity with implications for neurodegenerative disease.

ative disorders. FUN Early Career Session, Society for Neuroscience Annual Meeting, Chicago, IL, October 2024.

- [7] Melick A, **Lukacik D**, Bimonte-Nelson HA, Schaefer SY, Beeman S, & Verpeut JL. Alzheimer's disease and fine motor degeneration: investigating changes in fine motor accuracy and coordination using a novel rodent reaching task. Society for Neuroscience Annual Meeting, Chicago, IL, October 2024.
- [8] **Lukacik D**, Melick A, Schaefer SY, Beeman S, & Verpeut JL. Creation and testing of a novel fine motor task for detection of neurodegenerative precursors. AAC Scientific Conference, Barrow Neurological Institute, Phoenix, AZ, September 2024.

Awards and Honors

July 2024	Teaching Assistant Excellence Award, Department of Psychology, Arizona State University
Nov 2022, 2023	CLAS Student Leader Award, College of Liberal Arts and Sciences, Arizona State University
Dec 2023	Teaching Assistant Collegiality Award, Department of Psychology, Arizona State University
2021–2025	Dean's List, Arizona State University
May 2021	International Baccalaureate Diploma Recipient
May 2021	New American University Scholar, Arizona State University

Leadership & Community Involvement

2025–Present	Student Representative , Umeå University Student representative on the Cognitive Science master's program council; involved in shaping program policy
2021–2025	President , NeuroDevils, Arizona State University Grew membership and departmental integration of ASU's undergraduate neuroscience club following COVID disruptions
2021–2025	Departmental Volunteer , Department of Psychology, Arizona State University
2024	Disaster Health Services Responder , American Red Cross Completed training in disaster response protocols and health services coordination
2021–2023	Volunteer , Medical Directive Street Runs In collaboration with the University of Arizona Street Medicine program; served unhoused individuals in Phoenix
2021–2023	Officer , Healthcare Preparatory Club, Arizona State University
2019–2021	Hub Manager , Sunrise Movement Scottsdale Founded and ran a local chapter as part of IB Creativity, Activity, Service program

Memberships

2021–Present	Associate Member, American Physician Scientists Association
2023–2025	Student Member, Society for Neuroscience (SfN)

Skills

Laboratory	Rodent behavioral testing; task development; transcatheter perfusion; rodent surgical procedure; tissue dissection; histology; microscopy.
Computational	Python; MATLAB; R; SLEAP; QuPath; Arduino; Typst/LaTeX; Git/GitHub.
Clinical	Emergency medical procedures; patient care; charting; basic life support; resuscitation.
Other	Academic writing; scientific communication; data visualization; teaching and mentoring.
Languages	English & Slovak (native); Czech (advanced); Spanish (intermediate); Swedish (beginner).

Certifications

2022–Present	Emergency Medical Technician – Basic, Arizona Department of Health Services/NREMT
2021–Present	Basic Life Support (BLS), American Heart Association