

Leshia Snively

Boulder, CO

(609) 444-6992 | Leshia.Snively@colorado.edu
[linkedin.com/in/leshia-snively](https://www.linkedin.com/in/leshia-snively)

EDUCATION

2019-2023 **Neuroscience & Psychology, BA., *Magna Cum Laude***
University of Colorado Boulder, Boulder CO
Undergraduate Honors Thesis: “The effects of problematic alcohol use in combination with acute cannabis use on cognition”

RESEARCH EXPERIENCE

Professional Research Assistant; *Institute for Behavioral Genetics*, Boulder, CO August 2023 – Present
Laboratory of Dr. Susanna Molas

- **Effects of unpredictable stress on threat processing and adaptive defensive learning (2024-present)**
 - Assessed naturalistic threat responses in mice that were subjected to unpredictable stress including restraint, forced swim, and foot shock.
 - Analyzed videos with Ethovision and behavior with MATLAB, performed statistical analysis using RStudio, prepared graphs with GraphPad Prism.
 - Presented oral talk and poster as first author.
- **Neuronal ensembles of aversive experiences (2023-present)**
 - Set up TRAP2 x Ai14 transgenic mice within the lab to label activated ensembles.
 - Performed c-Fos immunostaining for relevant brain regions and imaged using Nikon widefield scope.
 - Processed collected images in ImageJ to quantify activated cells and colocalization of c-Fos and tdTomato.
- **Interpeduncular nucleus (IPN) circuitry in innate and adaptive defense learning (2023-2024)**
 - Analyzed data using Ethovision tracking, processed behavior with custom MATLAB scripts, and graphed with GraphPad Prism. Assisted with brain slicing, immunostaining and imaging.
 - Contributed to revising/writing the manuscript.
 - Second author on manuscript submitted for publication and poster presentation.
- **Effects of substance use on and anxiety like behaviors (2023-present)**
 - Worked with a graduate student in oral drug administration paradigm scribing drug taking and mass.
 - Helped run behavior to assess anxiety-like behaviors for each cohort.
- **Lab manager roles (2023-present)**
 - Maintaining lab supply stocks, product selection and ordering, creating and submitting IACUC protocol amendments, EH&S liaison.
 - Managing mouse colonies: breeding, weaning, identification, and overall organization.
 - Creating and optimizing lab protocols (e.g., c-Fos & immunohistochemical staining, Tamoxifen engram labeling, cresyl violet staining, fluorescence microscopy, etc.)

Undergraduate Research Assistant; *The Center for Health and Addiction: Neuroscience, Genes, and Environment (CUChange Center)*, Boulder, CO Jan. 2022 – May 2023
Laboratory of Dr. Cinnamon Bidwell

- Prepared blood samples, extracted DNA, and performed whole blood lipopolysaccharide stimulation for 6 NIH-funded R01s. This data contributed to findings on:
 - Effects of cannabis on aging, pain management, inflammation, anxiety, and insulin levels.
- Performed a reanalysis of variables within “Acute Cognitive Effects of Dabbing” study to measure if alcohol use among the participants predicted cannabis use and subsequent cognitive effects. These findings were defended within my undergraduate honors thesis.

Undergraduate Researcher; *Lab Techniques in Neuroscience, University of Colorado Boulder*,
Boulder, CO

Aug. 2021 – Dec 2021

Mentor: Dr. Heidi Day

- Practiced lab techniques including immunostaining, cresyl violet staining, fluorescent imaging, neural tissue mounting, scientific writing, qPCR, and RT-PCR.
- Planned and executed experiment to measure the effects of acute cortisol administration on *Per1* mRNA expression in cockroaches.

Undergraduate Researcher; *Drug Discovery Through Hands-on Screen I, University of Colorado Boulder*,
Boulder, CO

Aug. 2021 – Dec 2021

Mentor: Dr. Pamela Harvey

- Performed bacteriostatic/bactericidal drug screens on ellagic acid.
- Collected data through max dose trials and dose-response trials.
- Analyzed data in a cohesive poster that was defended at the Fall 2021 Course-based Undergraduate Research Experience Symposium.

PUBLICATIONS

Williams, E.W., **Snively, L.**, O'Meara, B., Jacobs, H., Kolb, M., Zhao-Shea, R., Baratta, M., Tapper, A.R., Molas, S. (2024). Interpeduncular nucleus circuitry in innate and adaptive defense learning. (Manuscript in Revision, *Molecular Psychiatry*)

POSTERS AND ORAL PRESENTATION

Oral Presentations

- **Snively, L.**, Molas, S. *Neuronal Ensembles of Stress and Threat Processing*. Institute of Behavioral Genetics Mini-Conference. (2024) Oral presentation

Posters

- **Snively, L.**, Molas, S. *Effects of unpredictable stress on threat processing and adaptive defensive learning*. American College of Neuropsychopharmacology annual meeting. Poster
- **Snively, L.**, Molas, S. *Effects of unpredictable stress on threat processing and adaptive defensive learning*. Society for Neuroscience Annual Meeting. (2024) Poster Presentation
- Williams, E., O'Meara, **Snively, L.**, B., Jacobs, H., Kolb, M., Zhao-Shea, R., Tapper, A.R., Molas, S. *Midbrain circuitry controls threat processing and innate defensive adaptive learning*. Society for Neuroscience Annual Meeting. (2024) Poster Presentation
- **Snively, L.**, Molas, S. *Effects of unpredictable stress on threat processing and adaptive defensive learning*. Institute for Behavioral Genetics Poster Day. (2024) Poster presentation
- **Snively, L.**, Kellam, A., Thomas, C., Holliday, J. *Ellagic acid as a potential antibiotic for salmonella typhimurium*. Course-based Undergraduate Research Experience Symposium. (2021) Poster presentation

CERTIFICATES AND AWARDS

- University of Colorado Boulder Presidential Scholarship. This is a competitive scholarship given to out of state students with the strongest admissions applications.
- Society of Women Engineers certificate of achievement.

LEADERSHIP EXPERIENCE/OUTREACH

Volunteer, *Behavioral Neuroscience Program UCB*, Boulder, CO Oct. 2024 - Present

- Travelled to a local underrepresented school for two days to teach them about neuroscience through experiments and sheep brain dissections.

DEI committee member, *Institute for Behavior Genetics*, Boulder, CO Sept. 2024 – Present

- Attending monthly meetings to discuss and plan DEI outreach and programs that could be implemented in lab environments.
- Mentored summer undergraduate research fellowship (SURF) student within the laboratory of Dr. Molas.

Volunteer, *SCOPE*, Boulder, CO April 2024 – Present

- Underwent training and visited local, underrepresented middle schools to provide lessons in biology and microscopy to initiate their interest in science.

Mentor; *Mentor Collective*, Boulder, CO April 2020 – Jan. 2022

- Mentored undergraduate students to guide them through their first year at CU Boulder.

Evolutionary Biology TA; *University of Colorado*, Boulder, CO Sept. 2020 – Dec. 2020

- Planned and held weekly recitations for two groups of evolutionary biology students at CU Boulder.
- Attended monthly meetings and communicated with professors about student progress and concerns.
- Offered private tutoring for students on the subject matter.

ADDITIONAL WORK EXPERIENCE

Line Cook, Cashier, Server, Dishwasher; *Barchetta*, Boulder, CO Feb. 2023 – Aug. 2024

- Practiced balancing tasks in a fast-paced environment that serviced 150+ customers a night.
- Gained experience in every position within the restaurant, often switching from food preparation to customer service.

Front Desk Receptionist; *Education Abroad Office UCB*, Boulder, CO Aug. 2021 – May 2023

- Developed the front desk position at CU Education Abroad.
- Directed calls to a dual office with around 20 education advisors.
- Organized meetings between students and advisors.

SKILLS

Laboratory Skills

- Stereotaxic brain surgery: intracranial microinjections

Leadership and Administrative

- Communication and delegation
- Data collection, organization, analysis

- Fiber photometry (Doric): signal acquisition and analysis
- Rodent behavioral assays: Oral drug administration, visual loom stimulus, forced swim, restraint stress, foot shock, resident intruder, elevated plus maze, open field
- Estrus collection (vaginal lavage)
- Mouse intracardiac perfusions
- Cryostat sectioning
- Immunohistochemistry
- Brain tissue mounting
- Widefield fluorescent, confocal, and light microscopy
- Animal colony maintenance using SoftMouse and Excel
- DNA extraction
- Experience with clean lab environments
- Experience with different specimen biosafety levels

- Environmental health and safety compliance liaison
- IACUC amendment preparation
- Interviewing
- Lab maintenance and organization
- Mentoring, teaching, and training
- Personnel management
- Scientific presentations
- Preparing SOPs for lab procedures
- Three years in data management
- Lab notebook keeping

Computing

- RStudio programming: Intermediate proficiency
 - MATLAB programming: Intermediate proficiency
 - Microsoft Word and Excel: Proficient
 - GraphPad Prism: Proficient
 - Ethovision: Proficient
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