




ELIZABETH B. SMEDLEY

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Behavioral neuroscientist with 5+ years experience teaching and utilizing rigorous experimental design, data analysis and interpretation of results quantifying behavioral responses in animals. I excel collaborating with others to expand research programs through exploration of novel experimental questions to ultimately deepen understanding of behavior and enrich lives.

EDUCATION

Dartmouth College | *PhD Student*, Psychological and Brain Sciences Sept 2015 – Expected Sept 2020

University of New Hampshire | *BS*, Neuroscience and Behavior;
Minor in Spanish, Minor in Justice Studies Sept 2011 – May 2015

TECHNICAL SKILLS

Teaching:

- Mentoring researchers
- Inclusive teaching
- Lab and lecture-based teaching

Experimental Design:

- Learning principles (e.g., Pavlovian and Instrumental conditioning)
- Control group design and reproducibility
- Organized data collection and storage
- Literature synthesis

Data Analysis & Visualization:

- R (advanced) & ggplot2
- Repeated measures and longitudinal data analysis (linear mixed modeling)
- Technical and grant writing
- Presentation to general audiences

EXPERIENCE

Teaching and Mentorship

- Teaching Assistantships (courses include: Systems Neuroscience & Lab, Introduction to Neuroscience, Psychobiology)
- Guest Lectures to both large and small audiences (titles include: "Liking vs. Wanting: Hedonics, Reward, Sign-tracking, and Addiction", "Motivation", "DREADDs: The function of chemogenetics and their use in behavioral neuroscience")
- Mentorship and one-on-one research guidance (3 Undergraduate Mentees, 2 Graduate Mentees, 1 Post-Doctoral Mentee)
- Refined oral presentation skills through regular (x3 annual) presentations on scholarly works to students and faculty throughout pre- and post-doctoral training
- Science communication to the public via outreach events and pen pal programs (e.g., Dartmouth Neuroscience Day, Letters to a Pre-Scientist)

Research Products

- Targeted chemogenetic (DREADD) disruption of cells in the accumbens and pallidum showed the contribution of cells within this circuit towards attributing value to a cue predictive of a food reward in task.
 - Findings contributed to securing a \$2 million-dollar NIH/NIDA R01 grant
- Provided experimental assistance and analytical guidance on a collaborated project using optogenetic inhibition of ventral pallidum. Published results show an inability of impaired animals to use of cues to guide behavior in a novel, salt deprived state.
- Produced a series of behavioral experiments to examine how predictive cues in sequence inform each other and can alter behavior.
 - Findings contributed to securing a predoctoral NIH/NIDA F31 grant (2-year, independent funding)

AWARDS

2020 | Marie Center Award for Excellence in Teaching, Dartmouth College
2020 | NIH/NIDA F31 Predoctoral Fellow
2018 | AIGrant.org Grant Recipient
2016 | Graduate Alumni Research Award, Dartmouth College
2015 | Summa Cum Laude, University of New Hampshire
2014 | Summer Research Assistantship Grant, University of New Hampshire

ACTIVITIES

Letters to a Pre-Scientist – Scientist Pen Pal
Upper Valley Brain Bee – Volunteer
Dartmouth Science Day – Volunteer
B.I.A.S. @ Dartmouth (Building Inclusivity for the Advancement of Science) – Founding Member

SELECT SCHOLARLY WORKS

 <https://scholar.google.com/citations?hl=en&user=z5MHV2gAAAAJ>

Chang SE, Smedley EB, Stansfield KJ, Stott JJ, Smith KS. Optogenetic Inhibition of Ventral Pallidum Neurons Impairs Context-Driven Salt Seeking. *J Neurosci*. 2017;37(23):5670-5680. doi:10.1523/JNEUROSCI.2968-16.2017

Smedley EB, Smith KS. Evidence of structure and persistence in motivational attraction to serial Pavlovian cues. *Learn Mem*. 2018;25(2):78-89. Published 2018 Jan 16. doi:10.1101/lm.046599.117

Smedley EB, Smith KS. Evidence for a shared representation of sequential cues that engage sign-tracking. *Behav Processes*. 2018;157:489-494. doi:10.1016/j.beproc.2018.06.010

Smedley EB, DiLeo A, Smith KS. Circuit directionality for motivation: Lateral accumbens-pallidum, but not pallidum-accumbens, connections regulate motivational attraction to reward cues. *Neurobiol Learn Mem*. 2019;162:23-35. doi:10.1016/j.nlm.2019.05.001