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Professional Profile

Dr. DiFazio has expertise in learning, memory and behavior with an emphasis on how prior experiences and emotional states alter the neural circuits that support these processes. She applies her expertise to analyze human factor contributions to transportation accidents, pedestrian accidents, and warning and safety issues.

Dr. DiFazio earned her Ph.D. in Psychology from the University of California, Los Angeles (UCLA) Behavioral Neuroscience program. Her doctoral research focused on how positive experiences change the neural circuits that drive fear learning, using techniques such as electrophysiology, optogenetics and fiber photometry to assess how changes in brain activity affect behavior in real time. Dr. DiFazio also instructed courses at UCLA in comparative psychology, learning theory, behavioral neuroscience and general psychology.

Academic Credentials & Professional Honors

Ph.D., Psychology, University of California, Los Angeles (UCLA), 2024

M.A., Psychology, University of California, Los Angeles (UCLA), 2021

B.A., Neuroscience and Behavior, Vassar College, 2018

UCLA Graduate Summer Research Mentorship Award (2023)

NSF Graduate Research Fellowship Program Honorable Mention (2022)

Graduate Student Poster Award at the Pavlovian Society Meeting (2021)

UCLA Psychology Graduate Summer Research Mentorship Award (2021)

UCLA Graduate Dean's Scholar Award (2020–22)

Prior Experience

Graduate Researcher, UCLA, 2020-2024

Teaching Assistant, UCLA, 2020-2024

Mentor, Lumiere Education, 2021-2024

Research Specialist, Emory University, 2018-2020

Publications

Taira, M., Millard, S., Verghese, A., DiFazio, L., Hoang, I., Jia., R, Sias, A., Wikenheiser, A., Sharpe, M. Dopamine release in the nucleus accumbens core encodes the general excitatory components of learning. Journal of Neuroscience 2024. In press.

Seitz, B., Hoang, I., DiFazio, L., Blaisdell, A., & Sharpe, M. Dopamine errors drive excitatory and inhibitory components of backward conditioning in an outcome-specific manner. Current Biology 2022, 32(14), 3210-3218.

Gabriel, C, Zeidler, Z., Jin, B., Guo, C., Goodpaster, C., Kashay, A., Wu, A., Delaney, M., Cheung, J., DiFazio, L. and Sharpe, M. BehaviorDEPOT is a simple, flexible tool for automated behavioral detection based on markerless pose tracking. Elife 2022, 11, p.e74314.

DiFazio, L., Fanselow, M., & Sharpe, M. The effect of stress and reward on encoding future fear memories. Behavioural Brain Research 2022, 417, 113587.

DiFazio, L., Reis, D., & Manns, J. Optogenetic stimulation of the basolateral amygdala accelerates acquisition of object-context associations. Behavioral Neuroscience 2021, 135(3), 354.

Presentations

L. DiFazio. New insights into the neural circuits that support Pavlovian fear conditioning. Oral presentation, UCLA Psychology departmental journal club, Los Angeles, CA, 2023.

L. DiFazio, F. Reis, A. Adhikari. Role of periaqueductal gray GABAergic cells in instrumental food seeking. Poster presentation, Pavlovian Society, Austin, TX, 2023.

L. DiFazio, Z. Greer, M.J. Sharpe. New insights into the role of the BLA in Pavlovian fear conditioning. Oral symposium, Australian Learning Group, Sydney, Australia, 2022.

L. DiFazio, Z. Greer, R. Jia, M.J. Sharpe. The temporal dynamics of encoding fear memories in the BLA and how the role of the BLA changes with reward learning experience. Poster presentation, Society for Neuroscience, San Diego, CA 2022.

L. DiFazio, Z. Greer, R. Jia, M.J. Sharpe. The temporal dynamics of encoding fear memories in the BLA and how the role of the BLA changes with reward learning experience. Poster presentation, Pavlovian Society, Milwaukee, WI 2022.

L. DiFazio. Dorsal tegmental dopamine neurons gate associative learning of fear. Oral presentation, UCLA Psychology departmental journal club, Los Angeles, CA, 2021.

L. DiFazio, Z. Greer, M.J. Sharpe. The temporal dynamics of encoding fear memories in the BLA following reward learning. Poster presentation, Pavlovian Society, Ann Arbor, MI 2021.

L. DiFazio, D. Reis, N. Ahlgrim, J. Manns. The effect of optogenetic stimulation of basolateral amygdala on declarative memory in rats. Poster presentation, Society for Neuroscience, Chicago, IL, 2019.

L. DiFazio. The effect of optogenetic stimulation of basolateral amygdala on declarative memory in rats. Oral presentation, Emory University Psychology Department, Atlanta, GA, 2019.

L. DiFazio, J. Butter, A. Rosenthal, M. Ward. The effect of a mindfulness intervention on well-being in college students. Thesis presentation, Vassar College, Poughkeepsie, NY, 2018.

L. DiFazio. How a mutated Draxin gene affects forebrain commissures and behavior of mice. Poster presentation, Vassar Psychology Department, Poughkeepsie, NY, 2017.