Rose Ying

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Detail-oriented and creative scientist with a neurobiology background and experience in rodent behavior, neurocircuitry, and pharmacology. Enthusiastic and curious to discover more about communication behaviors, systems neurobiology, and neuroethology. Currently a graduate student in the Neuroscience and Cognitive Science (NACS) program at the University of Maryland.

Education

UMD COLLEGE PARK
Aug 2020 - present

Expected PhD in Neuroscience and Cognitive Science
Principal investigator: Dr. Melissa Caras

WAKE FOREST UNIVERSITY
Aug 2013 - May 2017

B.S. in Biology with Honors; Minor in Linguistics
Principal Investigator: Dr. Wayne Pratt
Thesis: Effect of the CB1 neutral antagonist AM4113 on palatable food motivation

Experience

UMD COLLEGE PARK
Aug 2020 - present

GRADUATE RESEARCH ASSISTANT
Dr. Melissa Caras, Department of Biology
Auditory learning and plasticity. Determining the role of inferior colliculus in auditory perceptual learning.

UNC CHAPEL HILL
Sep 2018 - Aug 2020

RESEARCH TECHNICIAN
Dr. Melissa Herman, Department of Pharmacology
Alcohol abuse disorder circuitry. researching sex differences in alcohol consumption; investigating the role of central amygdala circuits on depressive-like behaviors.

UNC CHAPEL HILL
May 2017 - Sep 2018

RESEARCH TECHNICIAN
Dr. Garret Stuber, Department of Psychiatry
Addiction and reward neurocircuitry. Optogenetic manipulation of D1 dopamine receptors in a real-time place-preference assay; analysis of paraventricular thalamic reward circuitry.

WAKE FOREST UNIVERSITY
Aug 2013 - May 2017

UNDERGRADUATE HONORS STUDENT
Dr. Wayne Pratt, Department of Psychology
Appetitive feeding behavior. Pharmacological manipulation of cannabinoid-1 receptors on palatable food motivation and cue-induced reinstatement; investigating the role of ventral tegmental area serotonin receptors in appetitive motivation.

Publications

Ying, R., Hamlette, L., Nikoobakht, L., Balaji, R., Miko, N., & Caras, M. L. (2023). Organization of orbitofrontal-auditory pathways in the Mongolian gerbil. Journal of Comparative Neurology, 531(14), 1459–1481. https://doi.org/10.1002/cne.25525

Agoglia AE, Zhu M, Quadir SG, Bluitt MN, Douglass E, Hanback T, Tella J, **Ying R**, Hodge CW, & Herman MA. (2022). Sex-specific plasticity in CRF regulation of inhibitory control in central amygdala CRF1 neurons after chronic voluntary alcohol drinking. *Addict Biol*. 27(1), e13067. https://doi.org/10.1111/adb.13067

Pratt WE, Vaca-Tricerri R, Blanchard AC, Hopkins TR, Ilesanmi AO, Pierce-Messick Z, Rosner IA, & **Ying R**. (2021). Selective serotonin receptor stimulation of the ventral tegmentum differentially affects appetitive motivation for sugar on a progressive ratio schedule of reinforcement. *Behav Brain Res*, 403, 113139. https://doi.org/10.1016/j.bbr.2021.113139

Agoglia AE, Zhu M, **Ying R**, Sidhu H, Natividad LA, Wolfe SA, Buczynski MW, Contet C, Parsons LH, Roberto M, & Herman MA. (2020). Corticotropin-releasing factor receptor-1 neurons in the lateral amygdala display selective sensitivity to acute and chronic ethanol exposure. *eNeuro*, 7(2), ENEURO.0420-19.2020. https://doi.org/10.1523/ENEURO.0420-19.2020

Otis JM, Zhu M, Namboodiri V, Cook CA, Kosyk O, Matan AM, **Ying R**, Hashikawa Y, Hashikawa K, Trujillo-Pisanty I, Guo J, Ung RL, Rodriguez-Romaguera J, Anton ES, & Stuber GD. (2019). Paraventricular thalamus projection neurons integrate cortical and hypothalamic signals for cue-reward processing. *Neuron*, 103(3), 423–431.e4. https://doi.org/10.1016/j.neuron.2019.05.018

Presentations

"Subcortical plasticity during auditory perceptual learning", Poster presented at Society for Neuroscience (SFN), San Diego, CA, November 2022.

"Subcortical plasticity during auditory perceptual learning", Poster presented at Advances and Perspectives in Auditory Neuroscience (APAN), San Diego, CA, November 2022.

"Subcortical plasticity during auditory perceptual learning", Poster presented at Auditory Gordon Research Conference (GRC), Bryant University, Smithfield, RI, July 2022.

"Determining the role of the auditory midbrain in auditory perceptual learning", Poster presented at Association for Research in Otolaryngology (ARO), Virtual, February 2022.

"Determining the role of the auditory midbrain in auditory perceptual learning", Poster presented at Advances and Perspectives in Auditory Neuroscience (APAN), Virtual, November 2021.

"Effect of the CB1 neutral antagonist AM4113 on palatable food motivation", Symposium for Young Neuroscientists and Professors of the SouthEast (SYNAPSE), Presbyterian College, Clinton, SC, March 2017.

"A comparison of the effects of peripheral or centrally-active CB1 receptor antagonists on palatable feeding and cue-induced reinstatement in the rat", Poster presented at SfN Neuroscience, San Diego, CA, Nov 2016.

Awards

F31 RUTH L. KIRSCHSTEIN PREDOCTORAL AWARD. NIH, APRIL 2023
GRFP HONORABLE MENTION. NSF, 2022
T32 PREDOCTORAL TRAINING GRANT. UMD CEBH, 2021-2022
SYNAPSE TRAVEL GRANT. College of Charleston, 2017
SUMMER RESEARCH FELLOWSHIP. Wake Forest University, 2015

Skills

TECHNIQUES
In vivo chronic electrophysiology
Fiber photometry
Optogenetics

MOLECULAR BIOLOGY
Genotyping (gel electrophoresis PCR, qPCR)
Immunohistochemistry
In situ hybridization (RNAscope)

RODENT SURGICAL PROCEDURES
Cannula implantation (intracranial)
Electrode implantation (intracranial)
Optical fiber implantations (intracranial)
Viral injections (intracranial)
Perfusions

BEHAVIORAL PARADIGMS
Auditory perceptual learning
Operant conditioning & cue induced reinstatement
Real-time place preference
Two-bottle choice drinking assay

MICROSCOPY
Confocal (Zeiss) & fluorescence microscopy

DATA ANALYSIS
GraphPad Prism
IBM SPSS
JMP Pro
MATLAB

References

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