

Katie Emery

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Education

University of Michigan, Ann Arbor, MI
PhD in Neuroscience

Jul 2019 - Jun 2024
Overall GPA: 4.00

Vassar College, Poughkeepsie, NY
Bachelor of Arts in Neuroscience and Behavior

Aug 2015 - May 2019
Overall GPA: 3.74

Certifications and Workshops

Mentoring Through the Lens of Community Cultural Wealth	2024
Rackham Graduate Teaching Certificate	2024
Creative Alternatives to Tests and Essays: Authentic Assessments	2023
Mentoring Through the Lens of Inclusivity and Social Justice Workshop	2023
Equity Focused Teaching Workshop	2023
Mentoring Through the Lens of Neurodiversity Workshop	2022
Teaching College Science Seminar	2022
Nonviolent Communication Workshop (facilitator)	2021

Teaching at the University of Michigan (Median evaluation 4.8/5)

Role	Course	Dates
Instructor of record	PSYCH 402 Stress, Brain, and Behavior	Dec 2023 - Apr 2024
	PSYCH 336 Drugs of Abuse	Dec 2022 - Apr 2023
Lead Graduate Student Instructor**	PSYCH 336 Drugs of Abuse	Dec 2021 - Apr 2022
	PSYCH 230 Intro to Behavioral Neuroscience	Aug 2021 - Dec 2021
Graduate Student Instructor*	PSYCH 345 Human Neuropsychology	Aug 2023 - Dec 2023
	PSYCH 230 Intro to Behavioral Neuroscience	Dec 2020 - Apr 2021

*Led 2-3 discussion sections (~30 students) for large courses to deliver lectures smaller class settings, graded exams, advised on research opportunities, and held office hours.

**In addition to GSI role, led a team of GSIs, prepared lecture slides, prepared examinations, and delivered guest lectures

Individual mentorship of research undergraduates in the Berridge Laboratory

Honors Thesis Mentees

I guide these students in completion of an independent project from experimental design, through surgery, behavioral experiments, analysis, and regular feedback on their written theses.

Volunteer and Research For-Credit Mentees

I train small research teams (2-4 students) in optogenetic techniques, stereotactic surgery, pharmacology, behavioral techniques, drug self-administration, and histology.

Students work 10hrs/week and teams complete small independent projects and present in lab meeting.

Thesis Mentees	Mentoring Role	Current Position
Valentina Knapp Jul 2023 – Pres.	CRF antagonism project, CeA CRF projections, histology overlord, guiding through grad school process	Senior Honors Thesis Mentee, University of Michigan
Jacob Sazgari May 2023 – Pres.	Dissecting motivational role of CeA CRF neurons that project to dorsal striatum	Senior Honors Thesis Mentee, University of Michigan
Radha Thakrar Aug 2022 – Pres.	CRF antagonism and histological analysis of fos recruitment	Senior Honors Thesis Mentee, University of Michigan
Katherine Najor (High Honors) May 2023 – July 2024	Assessing affective valence of CRF neurons after chronic cocaine self-administration	Technician, Columbia University
Aishwarya Ramaswami (High Honors) May 2022 – July 2024	CRF antagonism and CeA CRF projections to the lateral hypothalamus. Trained in colony maintenance.	MD student, Oakland university
Kai Bartol (Honors) Jan 2022 – April 2024	Exploring if central amygdala CRF neurons bias choice for sucrose vs cocaine rewards	Neuroscience PhD Student, University of Wisconsin
Adithi Voleti (Honors) Jan 2022 - Apr 2023	Anatomically characterized CRF projections from the CeA to dopamine neurons in the ventral tegmental area	MS Student, Health Infrastructures & Learning Systems, University of Michigan
Lucas Joaquin Tittle (High Honors) May 2021 – Jun 2023	Determined that NAc CRF neurons generate positive incentive motivation via CRF peptide binding using a pharmacological CRF antagonist	Neuroscience PhD Student, University of Pennsylvania

Volunteer/For-Credit Mentees	Mentoring Role	Current Position
Maya Sheth March 2024-July 2024	Long-access self-administration project, histology overlord	Technician, Castro and Loewenstein labs, University of Michigan
Alvin Anand May 2023 – April 2024	CRF antagonism project, CRF Sucrose vs Cocaine choice project	Applying for med school, wish him luck!
Hyman Zhao May 2023 – August 2023	CRF antagonism project, exploring projections from central amygdala (CeA) CRF neurons	MS student, Michigan AI Lab, University of Michigan
Tia Sweidan Jan 2023 – Pres.	Dissecting motivational role of CeA CRF neurons that project to the dorsal striatum	DDS student, University of Michigan
Sophie Miller Aug 2022 - Jun 2023	Jack of all trades, histology overlord, piloted Sucrose vs Cocaine choice project	Technician, Carl lab, University of Chicago
Christina Lagas May 2022 - Oct 2022	Co-mentored: Rodent behavior, stereotactic surgery, NSF GRFP application feedback	Neuroscience PhD Student, University of Virginia
Ethan Chang May 2022 - Jul 2023	Histology overlord, CRF antagonism, piloted Sucrose vs Cocaine choice project	Applying for med school, wish him luck!
Kyle Kramer Jan 2022 - Apr 2023	CRF pharmacology project, trained in animal colony maintenance and became our lab tech	Technician, Levine Lab, Memorial Sloan Kettering Cancer Center
Samuel Uribe-Botero Jan 2022 - Apr 2022	CRF pharmacology project	Clinical Subjects Coordinator, Hope Lab, University of Michigan
Jordan Kostadinovski Aug 2021 - Apr 2022	Piloted long access cocaine project, CRF antagonism project	MD Student, Temple University
Hadi Allouch Aug 2021 - Apr 2022	Piloted long access cocaine project, CRF antagonism project	MD student, Michigan State University

U@MNI Work Study Research Program

Aug 2022 – July 2024

- Spearheaded development and administration of an undergraduate work study program where low-income students get paid to work on neuroscience research projects in University of Michigan labs

Aspirnaut High School Research Program

May 2014 – July 2024

Undergraduate Fellow, Graduate Student Consultant

- Collaborated to pilot the Vanderbilt-based program at the University of Michigan. Created programming to help high school interns develop their science communication skills through storytelling workshops
- Implemented and led a GirlsWhoCode python workshop for high school students to analyze and visualize information from large datasets

Positions

Dr. Kent Berridge Laboratory, University of Michigan, Ann Arbor, MI

May 2021 – July 2024

PhD Candidate

- Demonstrating a paradoxical role for corticotropin releasing factor from nucleus accumbens and central amygdala neurons in generating positive incentive motivation using optogenetics in *Crh*-cre rats
- Mapping circuitry from central amygdala CRF neurons that contribute to positive incentive motivation
- Characterizing the motivational and affective valence of corticotropin releasing factor neurons following chronic cocaine self-administration

Dr. Peng Li Laboratory, University of Michigan, Ann Arbor, MI

Mar 2020 - Apr 2021

PhD Candidate

- Characterized the relationship between breathing and emotion, specifically the role of sigh in stress response and coping. Elucidated the cough control circuit within the ventral medulla.

Dr. Bojana Zupan Laboratory, Vassar College, Poughkeepsie, NY

Aug 2018 - May 2019

Undergraduate Researcher

- Implemented a chronic stress paradigm to examine stress resiliency in male offspring of adult females with postnatal running wheel access

Dr. Bing Ye Laboratory, University of Michigan, Ann Arbor, MI

May 2017 - Aug 2017

Aspirnaut Undergraduate Researcher

- Investigated developing *Drosophila* larvae with overexpressed chromosome 21 genes for aberrant morphology of axons relevant to Down syndrome

Publications

*denotes undergraduate author

Emery, K., *Tittle, L., Berridge, K. "Extended Amygdala Corticotropin Releasing Factor Generates Positive Incentive Motivation." *Manuscript Submitted to the Journal of Neuroscience*.

Gannot, N., Li, X., Phillips, C., Bilge Ozel, A., Harumi Uchima Koecklin, K., Lloyd, J., Zhang, L., **Emery, K.**, Li, J., Li, P. "A neural circuit for coughing." Manuscript submitted to *Nature Neuroscience* 2023

Shen J, Geng L, Li X, **Emery C**, Kroning K, Shingles G, Lee K, Heyden M, Li P, Wang W. "A general method for chemogenetic control of peptide function." *Nat Methods*. 2023 Jan;20(1):112-122.

Presentations

*denotes undergraduate author

Emery, K., Berridge, K. The role of central amygdala corticotropin-releasing factor neurons in motivation and addiction. *Poster at the 2023 Amygdala Function in Cognition, Emotion, and Disease Gordon Research Conference and Seminar.*

*Tittle, L., **Emery K.**, & Berridge, K., The role of nucleus accumbens corticotropin releasing factor in incentive motivation. *Poster at the Michigan Society for Neuroscience 2023 Annual Meeting.*

*Ramaswami, A., *Thakrar, R., *Sweidan, T., **Emery, K.**, Berridge, K.C. The role of central amygdala corticotropin releasing factor neurons in motivation and addiction. *Poster at the Michigan Society for Neuroscience 2023 Annual Meeting.*

*Miller, S., *Voleti, A., *Bartol, K., *Kim, H., **Emery, K.**, & Berridge, K. Central amygdala corticotropin releasing factor neurons project to the VTA to mediate incentive motivation. *Poster at the Michigan Society for Neuroscience 2023 Annual Meeting.*

Emery, K., *Tittle, L., Berridge, K. The role of CRF neurons and of CRF neurotransmitter in generating positively valenced incentive motivation. *Poster at the Society for Neuroscience 2022 Annual Meeting*

Emery, K., *Tittle, L., Berridge, K. The role of CRF neurons in cocaine pursuit and addiction. *Poster at the Society for Neuroscience 2021 Annual Meeting*

Martín-González, E., **Emery, C.**, Czesak, F., Campus, P., Morrow, J.D., Flagel, S.B. A preclinical model of individual differences in social-reward learning *Abstract presented at Federation of European Neuroscience Societies 2020 Virtual Forum*

Emery, C., Mandeville, G., Jere, M., Shikari, S., Zupan, B. Postnatal maternal exercise programs resiliency to acute stress *Poster at the Hudson Valley Life Sciences Symposium at Bard College 2019*

Emery, C., Morales, I., Berridge, K. Optogenetic Stimulation of the Rat Orbitofrontal Cortex and Insular Cortex Hedonic Hotspots *Poster at the University of Michigan Undergraduate Summer Science Symposium 2018*

Emery, C., Pizzano, S. Ye, B. Identification of Down Syndrome Genes That Cause Aberrant Axonal Development in *Drosophila* *Poster at the NIH/NIDDK Undergraduate Conference Bethesda 2017*

Awards

Sister Mary Ambrosia Fitzgerald Mentoring Award	2024
OGPS Excellence in Teaching Award	2024
Rackham Travel Grant	2022, 2023
NIDA Diversity Scholars Travel Award	2023
NGP DEI Task Force Champion Award	2023
Psychology Excellence in Mentoring Award Nominee	2022
NIDA T32 Training Fellowship	2022
National Science Foundation Graduate Research Fellowship Honorable Mention	2019