888 N 4th Street
Phoenix AZ 85004

ERIC D. RICCI

eric.d.ricci@gmail.com
(412)979-5077

EDUCATION

University of Arizona: PhD in Neuroscience (2024-Present)
Carnegie Mellon University: M.A. in Rhetoric (2022)
Carnegie Mellon University: B.S. in Cognitive Neuroscience (2021)

PUBLICATIONS/CONFERENCES

Michelle L Miller, Jason Lohmueller, **Eric Ricci,** William Lu, Olivera J Finn; Patient-derived, vaccine-elicited MUC1 antibodies mediate immune effector functions against cancer cells. J Immunol 1 May 2019; 202 (1_Supplement): 136.17. https://doi.org/10.4049/jimmunol.202.Supp.136.17

McKeague, M.L.; Lohmueller, J.; Dracz, M.T.; Saadallah, N.; **Ricci, E.D.**; Beckwith, D.M.; Ayyalasomayajula, R.; Cudic, M.; Finn, O.J. Preventative Cancer Vaccine-Elicited Human Anti-MUC1 Antibodies Have Multiple Effector Functions. Antibodies 2024, 13, 85. https://doi.org/10.3390/antib13040085

EXPERIENCE

PhD Student in the Warden Lab—University of Arizona — April 2025 - Present

- In the Warden lab (www.wardenlab.org), I study how neuromodulator tone enhances or suppresses the expression of emotionally-motivated behavior. Specifically, I'm very interested in the integration of dynamical systems theory with cognitive ethology, or how internal states like hunger, arousal, or motivation can be modeled and co-represented in high dimensional space. I'm specifically interested in phase transitions between brain states, and how functionally distinct neuromodulatory circuitry converge to impact the production of emotional behavior.
- My work primarily uses fiber photometry, optogenetics, and chemogenetics to investigate real time neural firing data *in vivo* in freely moving and behaving mice. Techniques I regularly employ are:
    - Stereotaxic survival surgery
    - Behavioral testing
    - Histology (IHC, ISH, Flow Cytometry, RNAScope)
    - Data Analysis (MATLAB, Python, R, ArduinoIDE)
    - Embedded Systems Engieering (hardware optimization, signal processing, soldering)

Neuroscience PhD Student Rotations—University of Arizona — June 2024 - March 2025

- Working under Dr. Haining Zhu, I performed Western Blotting, quantitative RT-PCR, and RNA-immunoprecipitation assays in order to elucidate the mechanism of action for G3BP1 regulation of STING protein and mRNA expression in the context of immune-managed neurodegeneration of neurons.
- Working under Dr. Katalin Gothard, I prepared various stimuli to test rhesus macaques' eye movements in the context of an artificial social hierarchy. I created a data processing pipeline to analyze eye tracking data from our experiments in MATLAB in a scalable and generalizable manner.
- Working under Dr. Fei Yin, I performed IHC and single-cell RNA sequencing to further elucidate a link between mitochondrial dysfunction, lipid metabolism, and Alzheimer's disease. I built various scripts in R in order to analyze the bulk RNA-seq data, visualizing key changes in the up and downregulation of genes in treatment mice compared to wild type.

Omnichannel Experience Consultant – Indegene — June 2022 - June 2023

- Acted as project manager and lead client contact on several multimillion-dollar engagements, utilizing various methodologies to improve cross-functional collaboration across various teams.

Research Associate – Carnegie Mellon, University of Pittsburgh Medical Center — Summer 2018 - Fall 2022

- Responsible for solving complex problems in cancer clinical trial research by designing, analyzing and modeling data-generative experiments, and presenting findings to a team of investigators..
- Responsible for investigating the anti-tumor properties of Mucin-1 (MUC1) as a cancer biomarker, working with mice to create vaccination strategies to elucidate anti-MUC1 monoclonal antibodies.

- Helped perform various functional voxel-based analysis of fMRI data, utilizing softwares like BrainVoyager to perform transformations into standardized spaces and running multivariate statistical analysis to contrast areas of activation and inhibition across different patients.
- Prepared a survey of existing aphasia knowledge in the form of a literature review in order to compile a large database correlating brain lesion location with functional/behavioral deficit.

Legal Writer – May Law Group LLC Summer 2020

- Petitioned the US government to grant legal permanent resident status for immigrants across the nation.
- Responsible for the case construction and writing, working 1-on-1 with clients to make their stories heard

Consultant – Carnegie Debate, Pittsburgh Forensics Institute Spring 2015 – Summer 2019

- Worked strategically performing qualitative and quantitative market research and data analysis to help clients enter a new market, build out business model, and become profitable
- Educated young students of a variety of backgrounds in the essentials of good communication, preparing them for success in debate and beyond.

AWARDS/HONORS

- GRAD Space Scholar: 2024
- Best Presenter, Indegene 2022
- Dean's List: 2020, 2021

SERVICE

- Grant Reviewer, UA ReaP Grant, 2026
- Volunteer, Small Dogs Rescue Shelter AZ, 2025
- Volunteer, Jubliee Soup Kitchen: 2021-2023
- Volunteer Debate Coach, North Allegheny High School, La Salle High School, 2017-2022

TEACHING

- Private Chemistry Tutor, 2019-2020
- Instructor, Carnegie Debate: 2018-2020
- Instructor, Pittsburgh Forensics Institute: 2016-2018