

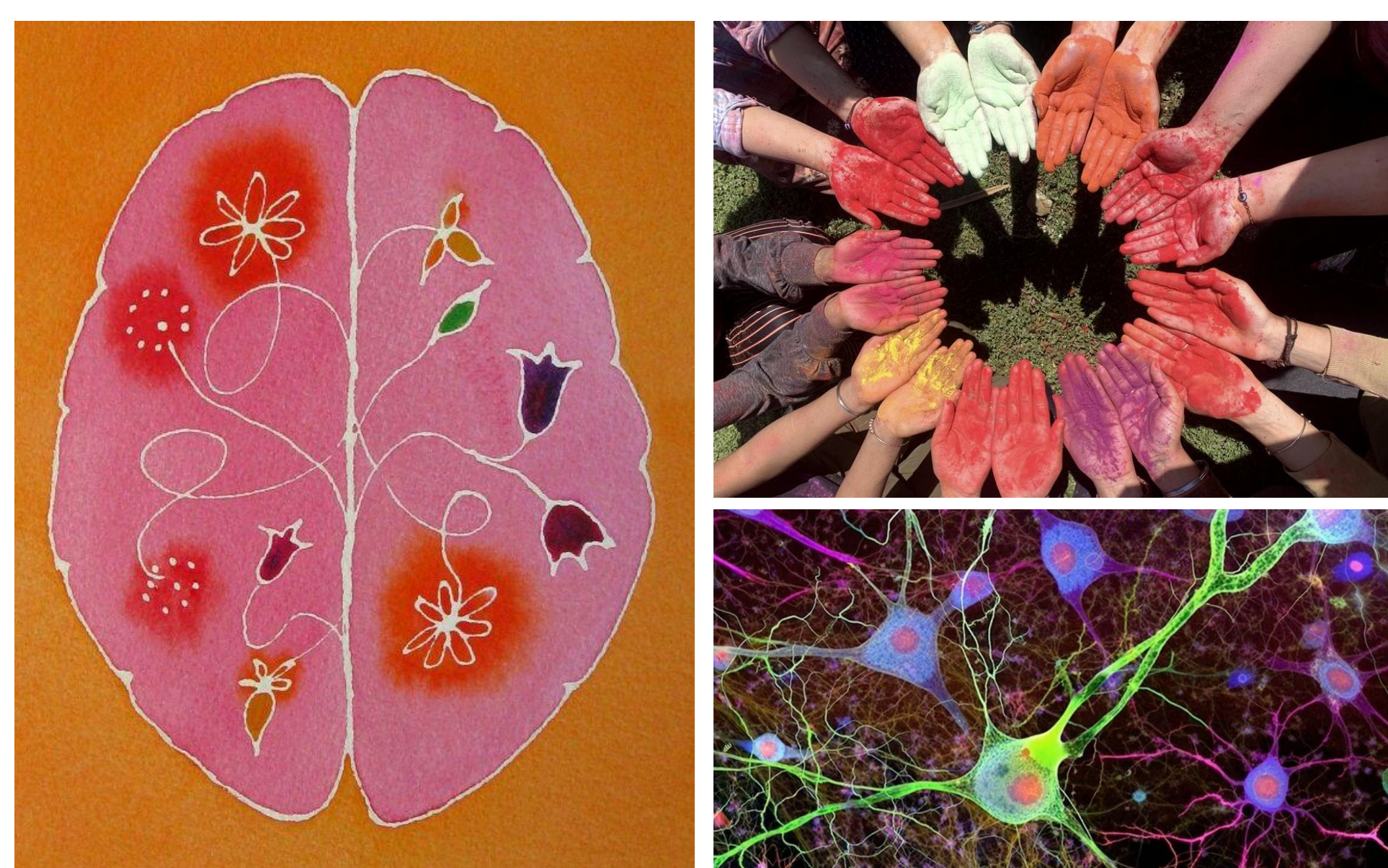


Investigating the Impact of Antibiotics on PTSD Symptoms: Treatment Opportunity or Risk?

Kairie Lamayo, University of Nevada-Reno, Doris Lam, Lawrence Livermore National Laboratory

ABOUT ME

- Neuroscience Major/Psychology and Chemistry Minor
- I aspire to develop accessible and sustainable approaches to improving mental health, particularly for populations disproportionately impacted by chronic stress and health disparities.
- My current research interests are neuroplasticity and neurobiological mechanisms associated with pathological stress.
- What drew me to this fellowship was a tour of LLNL where I witnessed an incredibly inquisitive and passionate research community!



SUMMER RESEARCH

- **Abstract:** This study aims to investigate how the gut-brain axis may influence susceptibility or resilience to the development of posttraumatic stress disorder (PTSD) and determine if it can be leveraged to help treat PTSD symptoms.
- **Methods:** We used a predator odor (bobcat urine) conditioned place aversion (CPA) paradigm to examine the onset and progression of PTSD-relevant behaviors in a rat model (Figure 1).

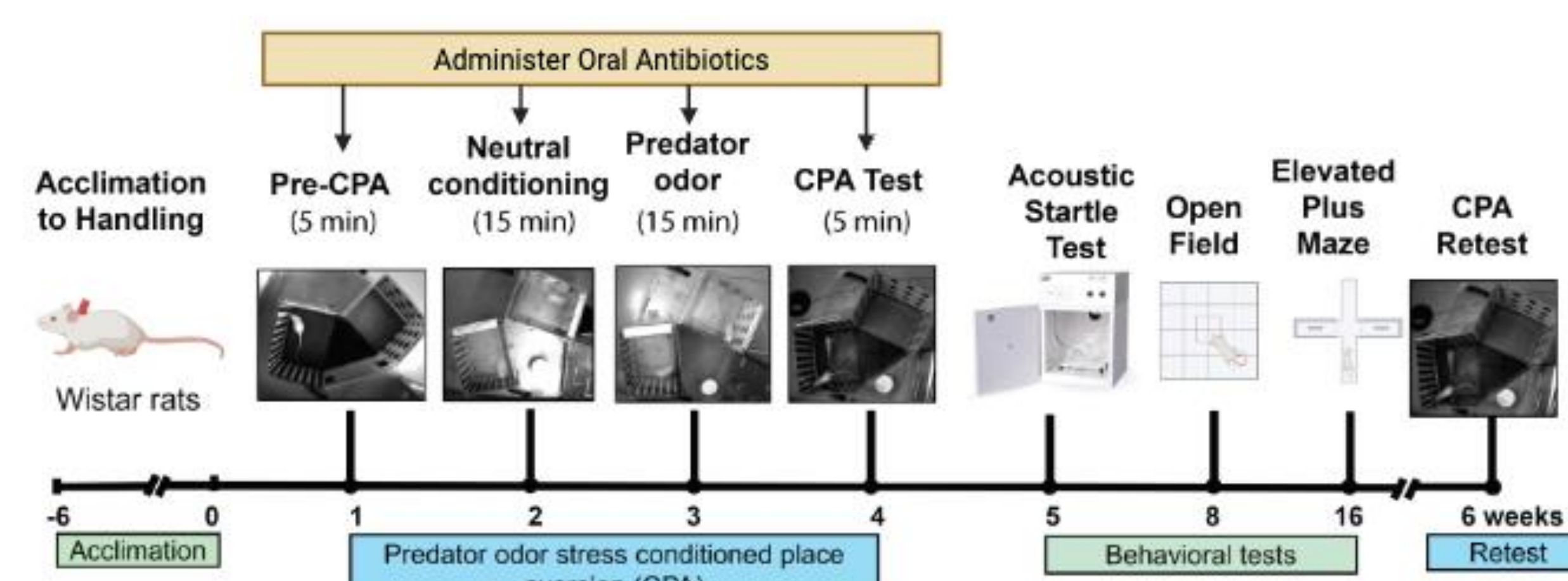


Figure 1. Schematic illustrating experimental design used to observe the effects of stressor (predator odor) on symptom progression in rats.

- **Results:** ASR data from vehicle-treated (placebo) rats validate findings from previous work. Antibiotic-treated rat data depict a distinct trend, but the study is still in progress.

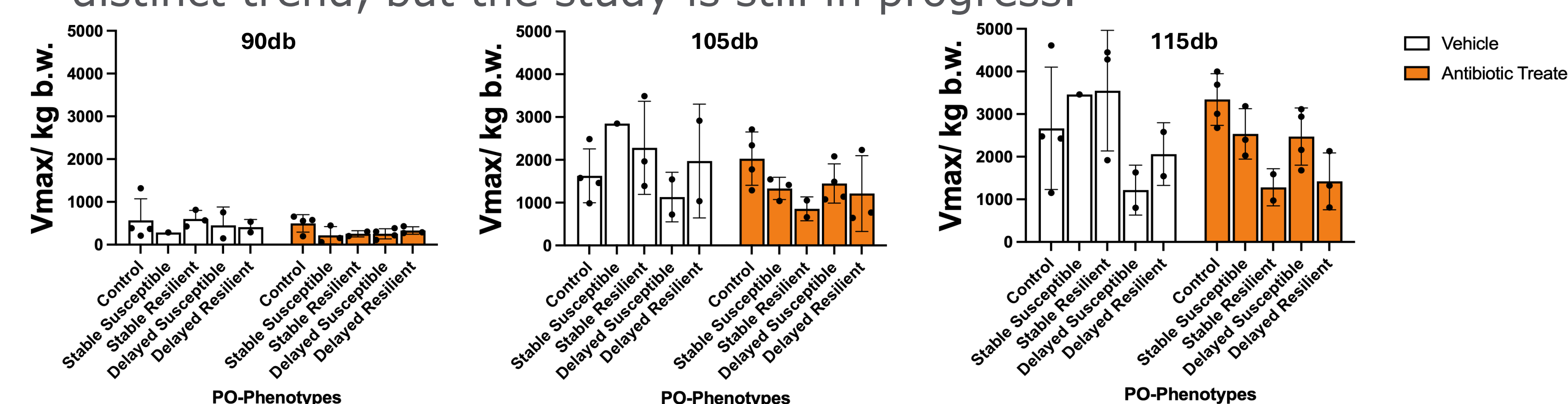


Figure 2. Acoustic startle response (Vmax/kg b.w.) for different sound intensities: 90db (left), 105db (middle), and 115db (right). Rats were grouped according to treatment and PO-phenotype diagnosed 24hrs and 6 weeks post-stressor.

- Acoustic startle response (ASR) is one of the measurements collected that is sensitive to detect PTSD-relevant behavior.

LLF AWARD

- I am very fortunate to be fully supported by my LLF funds used for housing, food, transportation, and leisure.
- Remaining funds are allocated to my additional rent back home and savings dedicated to supporting myself and my family.
- This fellowship has allowed me to reflect frequently on my journey as a first-generation student. Before LLNL, I spent summers working overtime to make ends meet. This is my first job that has allowed me to use my skills and intellect while also giving me the flexibility to have fun!
- I've met so many bright people, mentors and friends, that I am so appreciative of. My experiences here will forever be cherished!



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