The Children's Hospital of Philadelphia® | RESEARCH INSTITUTE

CHOP Research Institute Summer Scholars Program

Amelia J. Eisch, Ph.D.
Anesthesiology and Critical Care

Basic Research: Research most often conducted in a laboratory setting that is designed to enhance our scientific knowledge base (does not involve human subjects)

Probe How Molecular and Cellular Changes Influence Both Normal Behavior and Cognitive Functioning

I am neuroscientist who uses rodent models to study how molecular and cellular changes – e.g. altered number of newly-generated brain cells - influence normal and pathological behavior and cognitive functioning. My lab takes a neural circuit-based approach to probe how, for example, altered neurogenesis contributes to developmental and neurological disorders.

- **Potential summer research project**:
  Potential projects include: **(1)** NASA-funded work: Influence of space radiation on rodent brain and behavior; **(2)** NIMH-funded work: Stimulation of the entorhinal cortex-dentate gyrus circuitry as a novel treatment for depression; and **(3)** NIDA-funded work: Role of adult neurogenesis in rodent model of drug addiction.

- **Students will learn one or more of the following techniques**:
  (1) Immunohistological preparation of rodent brain tissue (sectioning, immunostaining, microscopy); **(2)** Quantification of newly generated neurons in the adult rodent hippocampus; and **(3)** Rodent stereotaxic intracranial surgery.

Please click here to learn more about Dr. Eisch