

CHOP Research Institute Summer Scholars Program



Rebecca Ahrens-Nicklas, M.D., Ph.D.

Human Genetics

Translational Research: Research focused on bringing concepts in laboratory research directly into medical practice (may or may not involve human subjects)

Developing Therapies that Correct Neuronal Circuit Function

We investigate how inherited metabolic diseases alter the brain's electrical activity. Most are currently untreatable because we do not know how biochemical defects leads to symptoms such as seizures and intellectual disability. We aim to develop novel therapies that correct neuronal circuit function to improve patient outcomes.

- **Potential summer research project:**
Summer projects could include **(1)** Defining brain circuit differences in a mouse model of an inherited metabolic disorder through EEG analysis, voltage sensitive dye imaging, histology, and molecular techniques; **(2)** Testing the utility of novel therapies in both mouse models and cells from human patients.
- **Students will learn the following techniques:**
(1) Electrophysiology studies of mouse models using EEG or voltage sensitive dye imaging; **(2)** Immunohistochemistry; and **(3)** Molecular and biochemical assays

Please click [here](#) to read more about Ahrens-Nicklas