

Tracy Tran Laboratory

Research: Understanding the mechanisms that govern neuronal wiring is a central focus of developmental neurobiology and, importantly, will result in the identification of molecular mechanisms relevant in many disease processes. Undergraduate Beckman Scholars joining our research team will gain hands-on experience and a better understanding of the cellular and molecular processes controlling neuronal morphogenesis, synapse development and refinement. These fundamental and important processes lead to the proper wiring of the nervous system that ultimately result in the execution of complex behavior in the organism. The student researcher will learn to use a combination of interdisciplinary approaches including, but not limited to, sophisticated mouse genetics (inducible knockout/knockin, CRISPR) to perform *in vitro* and *in vivo* experiments, state-of-the-art high resolution confocal microscopy (Zeiss LSM 980 with Airyscan 2) system, and physiology and behavioral analysis to provide a platform to study complex neural circuit functions and how defects in salient connections may lead to the development of neurological disorders, such as autism spectrum disorder.

Mentoring: The key elements the Tran lab practices and strives to do better in mentoring trainees are the following. (1) Accessibility: being an accessible and approachable mentor will make the student/trainee feel comfortable in seeking guidance, discussing challenges, and sharing their unique perspective. (2) Cultivating relationships: when a mentor and mentee establishes a strong working relationship through the understanding of goals and aspirations and providing constructive feedback in order for trust, respect, and empathy to form which will lead to the creation of a safe space for open dialogue and mutual learning. (3) Personalized support: it is crucial to recognize the diverse backgrounds and the unique experience of each student/trainee. Therefore, the mentor and lab members make every effort to account for the specific needs, strengths, and challenges of everyone in the team, but also tailoring the guidance and resources to ensure individual growth and development. (4) Professional development: sometimes the mentoring approach needs to extend beyond academic guidance and/or the lab. As a mentor, often I consider the personal well-being, professional skill-building, and career exploration of my students/trainees. This includes a healthy work-life balance and helping the students to make the appropriate connections with relevant resources for professional networking, such as attending and presenting their research at scientific conferences and encouraging them to apply to scholarship and fellowship opportunities.

As a mentor, I strongly believe that by continuing to implement these best practices, the key elements mentioned above, the student trainees will receive the support, guidance, and resources they need to thrive in any STEM field.