CYCLARITY
THERAPEUTICS

Cyclarity Therapeutics (CTx) is a clinical stage pharmaceutical company seeking a motivated and detail-oriented postbaccalaureate researcher to join our interdisciplinary team. CTx is engineering drugs for atherosclerosis (heart disease) and other diseases of aging. CTx's innovation is in binding and removing certain damage-causing molecules that are implicated in disease. By binding and removing certain toxic forms of cholesterol, for example, our drugs can reverse their pathological effects on arteries.

This position provides an opportunity to gain hands-on experience in both wet-lab and computational experimental techniques. The laboratory techniques involved include isolation of PBMCs and macrophages from human blood; flow cytometry to characterize macrophages in various states of differentiation, polarization, and disease; semi-automated (robotic liquid handler) biochemical binding and toxicity assays; ELISA; and other common molecular biology and biochemistry techniques. The student would also have the opportunity to work with rodents in *in vivo* experiments.

Using computational experiments (molecular dynamics, PMF calculations), we can explore how our drug molecules interact with targets, and better understand how to design our next generation of candidates. NOTE: This is NOT an omics/big data project - this is molecular simulation.

We welcome students of any experience level. *Projects are tailored to each student's background and interests, balancing computational, bench, and animal components as desired/appropriate.*

Primary Job Duties:

- Review and discuss relevant scientific literature and actively participate in lab meetings and collaborative research discussions.
- Perform laboratory experiments, maintain and calibrate equipment, and accurately document procedures and results.
- Apply and communicate fundamental principles of molecular interactions and develop an understanding of the benefits and limitations of computational modeling.
- Conduct molecular dynamics (MD) simulations to explore how structural modifications to drug molecules affect target (or off-target) binding. This will involve using command-line tools and developing short scripts (Python, BASH) to automate workflows.
- Option to learn animal handling and related experimental work.

Experience **required**:

- Bachelor's degree in biology, chemistry, biochemistry, molecular biology, immunology, bioengineering, or a related field.
- Ability to work both independently and collaboratively in a research team.
- Willingness and ability to learn new experimental and computational methods.
- Strong organizational skills and record-keeping in laboratory notebooks.

Experience **preferred**:

- Basic proficiency in 96-well plate assays and use of a plate reader spectrophotometer.
- Mammalian cell culture, animal work, robotic liquid handlers, and/or affinity assays.
- Command-line environments (terminal/BASH), basic programming in Python, GROMACS, PyMOL, and/or PLUMED.