

Faculty Member Contact Information

Name	Bhargav Patel, PhD
Contact Info	
SIUE Email	bhapate@siue.edu
Campus Box	2000
Department	Pharmaceutical Sciences

1 Funded, 2-3 Unfunded URCA Assistant(s)

Are you willing to work with students from outside of your discipline? If yes, which other disciplines?

- Yes

How many hours per week will your student(s) be required to work in this position?
(Minimum is 6 hours per week; typical is 9)

- 9

Will it be possible for your student(s) to earn course credit?

- No

Location of research/creative activities:

- Department of Pharmaceutical Science research labs in Health Science complex on campus

Brief description of the nature of the research/creative activity?

- Development of chemoresistance to first-line therapies is responsible for the majority of deaths (over 90%) in tumor patients. Elevated protein synthesis is a critical trait that is associated with genesis, poor prognosis, and drug resistance in many types of human cancers. An essential requirement for the assembly and operation of the eIF4F translational machinery is the interaction between subunits eIF4E and eIF4G and eIF4E with mRNA. Our goal is to develop novel drug-like and selective small-molecule inhibitors of the interactions of eIF4E with eIF4G and mRNA molecules.

Brief description of student responsibilities?

- The student will receive training in modern organic chemistry techniques. Specifically, the student will be synthesizing molecules that can be taken further to make final compounds for testing as anticancer compounds. The synthesis protocol may include 2-4 steps.

URCA Assistant positions are designed to provide students with *research or creative activities* experience. As such, there should be measurable, appropriate outcome goals. What exactly should your student(s) have learned by the end of this experience?

- The student would have a better grasp of modern organic chemistry skills, including synthesis, purification, and characterization techniques such as TLC, flash chromatography, UV, NMR, and LC-MS.

Requirements of Students

If the position(s) require students to be available at certain times each week (as opposed to them being able to set their own hours) please indicate all required days and times:

- N/A

If the location of the research/creative activities involves off campus work, must students provide their own transportation?

- N/A

Must students have taken any prerequisite classes? Please list classes and preferred grades:

- organic chemistry courses

Other requirements or notes to applicants:

- N/A