

# Summer Research Fellowship Proposal for 2020

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## ***FACULTY INFORMATION:***

**NAME:** Brendan Frett, PhD  
**DEPARTMENT:** Pharmaceutical Sciences  
**LOCATION:** Bio Med II 166-2

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## ***PROJECT INFORMATION:***

**TITLE:** Discovery of Small Molecule Anticancer Agents

**LOCATION OF THE PROJECT:** Biomedical Research Building II

**BRIEF DESCRIPTION OF THE PROJECT:** This project will focus on the design and synthesis of new chemical agents that can be used to treat cancer. These agents will be designed to target pathways dysregulated in cancers to block the growth, proliferation, and progression of cancer while sparing normal cells and tissue. This method of therapeutic development is called 'precision medicine' and is the foundation for this project.

**STUDENT'S RESPONSIBILITIES-DUTIES IN THE PROPOSED PROJECT:** Students involved in this project will obtain experience in medicinal chemistry, therapeutic development, and drug design. In particular, students will work through the drug development cycle, which consists of drug synthesis, screening, and analysis. The majority of therapeutic agents are discovered through this iterative process so students will gain an appreciation for the origins of medicine. Day-to-day, students will spend time designing and synthesizing new potential drugs, which will be further improved or progressed through pre-clinical development. State-of-the-art equipment will be readily available to help expedite research efforts.

**ESTIMATED TIME FOR PROJECT COMPLETION:** 12 weeks

**DOES THE WORK INVOLVE ANIMAL RESEARCH?** YES -----  
NO ----X----

**ORAL/POSTER PRESENTATION OPPORTUNITY:** It is required that the student present their work at lab meetings to improve oral communication and presentation skills. The student is encouraged to present work at any applicable national or international meeting.

**MANUSCRIPT SUBMISSION:** Journal of Medicinal Chemistry, European Journal of Medicinal Chemistry