

DIVISION OF PHARMACEUTICAL SCIENCE
COLLEGE OF PHARMACY

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE WOMEN

APPLICATION DEADLINE: 03/01/2018

PROJECT TITLE: Combinatorial treatment to overcome drug resistance in BRAF mutant melanoma

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Project Description

Melanoma cells develop both intrinsic and acquired drug resistance within a protective tumor stroma, which consists of a heterogeneous mix of non-cancer cells, including endothelial cells, immune cells, and fibroblasts, embedded in a tumor-specific extracellular matrix (ECM). In particular, Transdifferentiated cancer-associated fibroblasts (CAFs) that surround and infiltrate the melanoma stroma respond to BRAF inhibition by remodeling the ECM and secreting adaptive signals, which together provide a "sanctuary" for a small population of melanoma cells to bypass BRAF signaling and downregulate apoptosis. In this project, the student will work with a team of postdoctoral researcher and PhD student to characterize CAF-induced melanoma response and resistance to BRAF and MEK inhibitors. We will provide to the WISE student the experience and skill training in biomedical and cancer research. The student is expected to have the biology or medical background and have interests in biomedical research.