

# Pharmacy Student Summer Research Fellowship Proposal for 2022

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## **FACULTY INFORMATION:**

**NAME:** Amanda Stolarz

**DEPARTMENT:**  Pharmacy Practice  
 Pharmaceutical Sciences

**LOCATION:** UAMS Little Rock Campus; Biomedical Sciences Building 1 Room B228

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## **PROJECT INFORMATION:**

**TITLE:** Does docetaxel directly inhibit lymph vessel function to contribute to cancer-related lymphedema?

**LOCATION OF THE PROJECT:** UAMS Little Rock Campus; Biomedical Sciences Building 1 Room B228

## **BRIEF DESCRIPTION OF THE PROJECT:**

Arm lymphedema is a debilitating complication of breast cancer treatment that effects millions of American women. Lymphedema is the accumulation of fluid in the interstitial tissues due to reduced lymph flow. Lymph flow is maintained by rhythmic contractions of lymph vessels. Chemotherapy agents like anthracyclines and taxanes have been associated with an increased risk of lymphedema. Our lab has shown that the anthracycline drug, doxorubicin, directly inhibits the contractions of isolated lymph vessels and inhibits lymph flow in vivo at clinically relevant concentrations. This project will begin to investigate the effect of a commonly used taxane chemotherapy drug, docetaxel, on the contractions of lymph vessels. We will use real-time edge detection software to measure changes in diameter and contractility in isolated lymph vessels, arteries, and veins.

## **STUDENT'S RESPONSIBILITIES-DUTIES IN THE PROPOSED PROJECT**

Student will be responsible for making their own buffers, dissecting tissue from the rat, and conducting the isolated vessel functional studies. Student will also be responsible for analyzing the data, helping create figures, and participating in weekly lab meetings. Student will also provide a written summary of the project.

**ESTIMATED TIME FOR PROJECT COMPLETION:** \_\_8-10\_\_ weeks

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

## **ORAL/POSTER PRESENTATION OPPORTUNITY:**

UAMS Student Research day and/or other scientific conferences as appropriate

## **MANUSCRIPT SUBMISSION:**

Data from this project will be included as part of a larger manuscript from the lab, targeting either the journals *Frontiers in Pharmacology* or the *Journal of Pharmacology and Experimental Therapeutics*.