

# Pharmacy Student Summer Research Fellowship Proposal for 2020

---

## ***FACULTY INFORMATION:***

**NAME:** Ryo Fujiwara

**DEPARTMENT:** Pharmaceutical Sciences

**LOCATION:** Little Rock campus (Biomedical Research Building I, Room 238G)

---

## ***PROJECT INFORMATION:***

**TITLE:** Toxicity of synthetic cannabinoids in adolescents

**LOCATION OF THE PROJECT:** Little Rock campus (Biomedical Research Building I)

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

Synthetic cannabinoids (SCBs) are substances designed to mimic the main psychoactive ingredient in marijuana. While researchers study the therapeutic potential of SCBs, the use of SCBs has deviated from its original intent, leading to abuse by the general public. SCBs are marketed as being natural and safe to consumers; however, they are neither natural nor safe, causing serious adverse reactions, including seizures, nephrotoxicity, and in some cases, death. Nearly 90% of patients admitted to an emergency room for reported SCB use were adolescents, whose brain development is vulnerable to harmful environmental influences. Currently, the mechanisms of SCB-induced tissue toxicity are unknown, and emergency therapy to detoxify accumulated SCBs in intoxicated users does not exist.

In this project, the main focus is to learn how to address and conduct the basic research on drug abuse. Specifically, the student will learn how to use a pipette, conduct enzyme assays, and run a high-performance liquid chromatography (HPLC). An opportunity to attend a national research conference to present a poster might be provided later. No previous research experience is required.

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

Attend a weekly discussion with lab members

Conduct experiments

Analyze data

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

**DOES THE WORK INVOLVE ANIMAL RESEARCH?** YES -----

NO ----X----

**ORAL/POSTER PRESENTATION OPPORTUNITY:** Yes if students want to

**MANUSCRIPT SUBMISSION:** Toxicological Sciences, Drug Metabolism and Disposition, etc.