DEPARTMENT OF CHEMICAL & ENVIRONMENTAL ENGINEERING
COLLEGE OF ENGINEERING & APPLIED SCIENCES

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE WOMEN

FOR APPLICATION YEAR: 2021

PROJECT TITLE: Long-term dose-controllable implant

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Project Description

Current efforts in the area of ocular drug delivery include frequent intravitreal injections, which is not only invasive and inconvenient for patients but also may increase the risk of complications. Therefore, development of stable drug delivery systems which have ability to be released in a controlled manner for the long term is necessary.
This research project is about developing dose-controllable implants, which release drug on-demand, and determining drug release kinetics. Drug inside the implant capsule made of biodegradable polymer is released upon exposure to light. During the summer, you will have experience on developing polymer capsules and examining characteristics of drug delivery.
The advisor will provide basic principles in soft materials, drug delivery, and various analytical technique.
Basic chemistry lab experience is required.