

DIVISION OF PHARMACEUTICAL SCIENCE
COLLEGE OF PHARMACY

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE WOMEN

APPLICATION DEADLINE: 03/01/2018

PROJECT TITLE: Mechanistic Understanding of Skin Biomarker and Impact of Air Pollution using Innovative Human Skin Explant Model

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Project Description

Currently, there is a lack of in-depth research efforts assessing the impact of air pollution on skin health. Particle pollution, also known as particulate matter or PM, is a mixture of solids and liquid droplets floating in the air. PM_{2.5} is commonly used as standard for air pollution assessment and refers to particles that have a diameter less than 2.5 micrometers. Studies have indicated the association of heavily polluted areas with an increase in skin detrimental conditions such as loss of skin moisture, compromised barrier function, rash and atopic dermatitis. However, very little is known about the pollution effects on the biology of the skin and how it affects skin homeostasis. Air pollution is a global challenge and studies addressing its direct effect on the skin are in pressing need. The student will work with a team of researcher to characterize the damage of air pollution particles on human skin using an ex vivo human skin culture model. It is expected that the student has the biology background and are interested in biology, skin science and cosmetic science.