

DEPARTMENT OF SURGERY
COLLEGE OF MEDICINE

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE WOMEN

APPLICATION DEADLINE: 03/01/2018

PROJECT TITLE: Influence of cell culture methods on gene expression in human skin cells

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Project Description

Our laboratory studies wound healing and scar development in human skin. In particular, we seek to understand the underlying causes for differences in healing among different individuals or between different types of skin. This type of research often involves comparative analysis of gene expression in cells isolated from different skin samples—for example, uninjured skin vs. scar tissue. However, we recognize that the methods used for isolation and culture of human skin cells can have a dramatic effect on the results of such studies. We are interested in determining how different methods used during cell culture affect gene expression in human skin cells. This research project will involve culture of human dermal fibroblasts and/or epidermal keratinocytes under different conditions and comparative analysis of gene expression. The WISE student will learn the methods necessary to carry out the technical aspects of this study, including human skin cell culture, RNA preparation, and analysis of gene expression using real-time PCR.