

CANCER BIOLOGY  
COLLEGE OF MEDICINE

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE WOMEN

APPLICATION DEADLINE: 03/01/2018

PROJECT TITLE: Targeting Human Breast Cancer Metastasis by RNA Nanotechnology

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**Project Description**

Breast cancer is the most common cancer and one of the leading causes of cancer-related mortality in women worldwide. Most women do not die of breast cancer that is confined to the breast or draining lymph nodes but of tumors that spread, through a process called metastasis. Although treatments such as estrogen blockers, radiation, and chemotherapy can sometimes shrink or slow the growth of metastatic tumors, there is currently no cure once metastatic disease has occurred. Our study aims to develop novel RNA nanotechnology-based approaches to target a tissue-specific estrogen receptor cofactor MED1 and test the efficacy on human breast cancer metastasis in preclinical models. The WISE student may be assigned to various aspects of this research, including the generation and characterization of RNA nanoparticles, cell culture, cell growth, migration/invasion assays, collection and analyses of the data, etc.