Patrice Cagle
Program: Energy & Environmental Systems
Title: “Examining the Anti-oncogenic Properties of Rosehip (Rosa canina) Extracts on Human Breast Cancer Cell Proliferation, Migration, and Invasion”
Major Professor: Dr. Patrick Martin

RESEARCH QUESTIONS / PROBLEMS:
• There are currently no targeted therapy options for women with triple negative breast cancer.

METHODS:
• Cell proliferation assay, Western blot, Wound Healing assay, Transwell assays, MMP array, Gelatin zymography

RESULTS / FINDINGS:
• Inhibit cell proliferation, migration, and invasion without promoting apoptosis.
• Synergize with doxorubicin to inhibit cell proliferation and promote apoptosis.

SIGNIFICANCE / IMPLICATIONS:
• 1st study to demonstrate that rosehip extracts have anti-oncogenic properties on TNBC cells.
• 1st time ethnicity-based cell study has been conducted and demonstrated effectiveness in BC cells from specific ethnic origin.
• R16-3 (b type procyanidin): 1st time demonstrating anti-proliferative effects in cancer cells.
• This study has lead to a better understanding of how natural products (rosehip extracts) may provide a chemotherapeutic effect in breast cancer.

This research was funded by: U.S. Department of Education Title III HBGI Program & National Science Foundation Graduate Research Fellowship Program Grant No. (NSF 13-085)