



## 2016 ACS IRG Recipients

### **Shannon M. Buckley, PhD**

Assistant Professor, Department of Genetics, Cell Biology, and Anatomy, UNMC

**PROJECT TITLE:** Role of E3 ligase, UBR5, in hematopoietic differentiation and malignant Transformation

#### **LAY ABSTRACT**

Mantle cell lymphoma (MCL) is a rare and aggressive form of non-Hodgkin's lymphoma. Currently MCL patients have poor outcomes and often undergo bone marrow transplantation as part of their treatment. Recently new novel mutations have been identified in patients promising new avenues of research to understand MCL. Here we aim to study the role of the protein UBR5 which has been found to be mutated in ~18% of MCL patients to gain new knowledge and understanding of disease initiation, progression, and future therapies.

### **Wayne Russell Riekhof, PhD,**

Assistant Professor, School of Biological Sciences, UNL

**PROJECT TITLE:** Interorganelle Phospholipid trafficking in Eukaryotic Cells

#### **LAY ABSTRACT**

The boundary of the cell, and the boundaries of the compartments within the cell (organelles), are defined by membranes composed of lipid molecules. In addition to their role in membrane structure, lipids are also a source of signaling molecules that regulate cell growth and migration, processes that are dysregulated in cancer cells. The synthesis, transport, and metabolism of lipid molecules is thus an important aspect of the biology of cancer cells, though historically these fundamental cell biological processes have been difficult to study. We have devised a system using a simple model cell, baker's yeast, to understand a fundamental cellular process that is often altered in cancer cells. The product of this line of research will be new knowledge about these processes that are often altered in cancer cells. This new knowledge may lead to new insights about how to target lipid metabolism and trafficking with novel drugs to treat certain types of cancer, most notably breast, colon, and ovarian cancers.