



**Undergraduate Modeling Workshop**  
**May 20-25, 2018**  
**PROJECT ABSTRACTS**

**Group Leader:**  
Maggie Johnson

***Project V: Vegetation***

*“Analysis of vegetation using remote sensing data”*

**Abstract:** Imaging spectrometers housed on satellites are used to obtain data on vegetated surfaces by measuring reflectance from the Earth’s surface. These data are very useful as they provide information on changes in vegetation over time on global scales, which is important to assess the impacts of changes in weather and climate, and the effects of agricultural practices. However, the information provided by these data can be limited due to the resolution of the sensors and inhibiting factors such as cloud cover. In this project we will use two remote sensing sources of the Enhanced Vegetation Index (EVI) to analyze vegetation over Nebraska. The first, Landsat EVI, is available at fine spatial resolution, but is sparse in time. The second, MODIS EVI, is obtained regularly in time, but is available at a much coarser spatial resolution. We will use these data to explore the relationships between vegetation and changes in temperature and landcover (e.g. corn fields versus grasslands), as well as to classify the landcover in unknown regions.

**Group members: Samuel Hood, Zhihan Lu, Rita Pradhudesai, Thomas Rechtman, Meghana Tatneni, Ganlin Ye**