



**Interdisciplinary Workshop for Undergraduate Students**  
**May 14-19, 2017**

**Project:** *Lightcurve classification for periodically varying stars* [Lightcurves]

**Speaker:** David Jones

**Abstract:**

Periodically varying stars constitute many of the most important and intriguing phenomena in astronomy e.g. pulsating stars such as RR Lyrae and systems with two stars orbiting each other (eclipsing binaries). The goal of this project is to classify periodic stars based on features computed from stellar lightcurves (stellar brightnesses observed at many time points). A real dataset with basic features such as estimated periods for the stellar brightness oscillations will be provided and the group will work together to construct a classification algorithm and design any additional features needed in order to get the most accurate classification possible. At the end of the week the true classes of a test dataset will be revealed and the performance of the method will be assessed.