



# Physics Colloquium



Thursday, April 16th at 3:40PM in SC 234

*Featuring:*

**Dr. Kevin Krisciunas**

*Texas A&M University*

“At What Distance Can the Human Eye Detect a Candle Flame?  
And Other Aspects of Astronomical Standard Candles”

The candle flame experiment is a task you can assign to undergraduates that requires taking some simple data, but to do it properly you also need a CCD camera, a photometric night, a GPS locator, a knowledge of Planck's function, and the response functions of the eye for nighttime and daytime vision. Photometric distances of astronomical standard candles (such as radially pulsating variable stars and Type Ia supernovae) rely on the same basic principle. In this talk I discuss the candle experiment, Type Ia supernovae, and the method of main sequence fitting. The last-mentioned method is applied to some Galactic open star clusters that have previously lacked CCD photometry. We use a cross-entropy method that gives robust errors for the distance, age, reddening, and metallicity of a cluster and avoids some of the assumptions previously inherent in cluster studies.

Refreshments at 3:00PM in SC 103