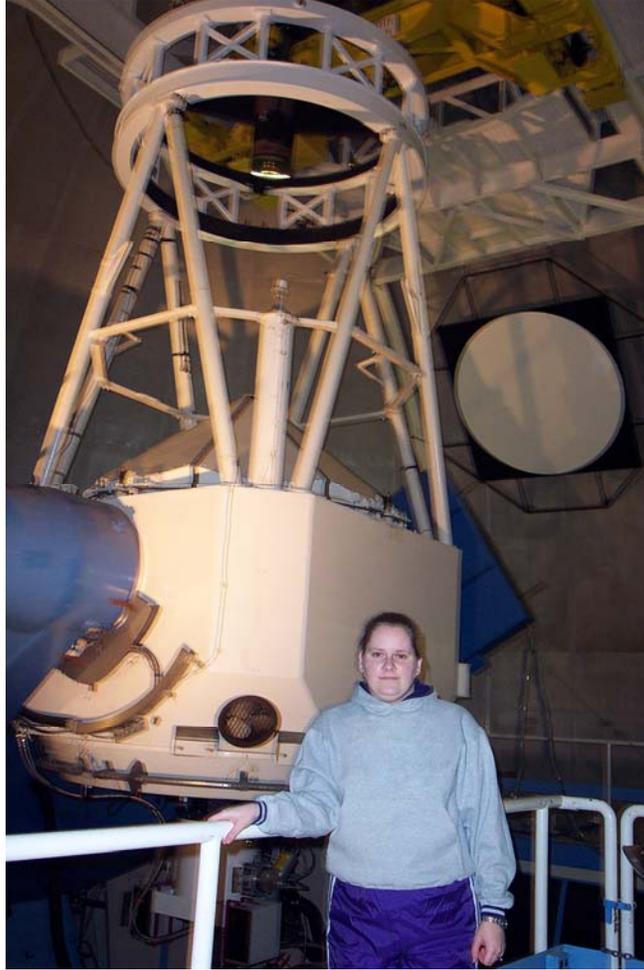


# ASTROPHYSICS



## **Jacqueline M. Dunn**

B.S. Physics & Astronomy – Texas Christian University, 2001

Ph.D. Physics, concentration in Astrophysics – Texas Christian University, 2007

### **Selected Papers**

“The evolution of dwarf galaxies: a comparison of UBV<sub>R</sub> photometry,” J. M. Dunn 2010, Monthly Notices of the Royal Astronomical Society, 408, 392

# ASTROPHYSICS

Dr. Jacqueline Dunn's primary area of research interest lies in the evolution of dwarf galaxies. Dwarf galaxies are the most numerous galaxies in the Universe, yet the driving forces in their evolution remain elusive. The two main types are the dwarf irregular (dI) galaxies and the dwarf elliptical/spheroidal (dE/dSph) galaxies. These systems are less complex than the large spiral galaxies, making them prime candidates for investigating the mechanisms responsible for star formation. Additionally, their smaller sizes make them more susceptible to the effects of external triggers such as galaxy – galaxy interactions. Understanding dwarf galaxy evolution is fundamental to understanding the evolution of larger galaxies like the Milky Way.

Dr. Dunn's academic career at Midwestern State University (MSU) began in the summer of 2006 as an instructor. She was promoted to assistant professor in 2007. Past awards include being named a NASA / Texas Space Grant Consortium Fellow. Dr. Dunn also oversees and operates the Daniel Planetarium at MSU, which is the Physics Program's primary outreach outlet. Approximately ten shows are given per year for various community groups in the Wichita Falls area.

Dr. Dunn has collaborated with MSU undergraduates in her dwarf galaxy research, as well as with scientists at NASA. Two students have had the opportunity to accompany Dr. Dunn on a research trip to McDonald Observatory in Fort Davis, TX (operated by the University of Texas at Austin). This trip gave them much needed hands-on research experience in gathering their own data. Other students have worked on modeling the star formation histories of dwarf galaxies through the use of computer simulations. In 2011, Dr. Dunn was awarded a grant through the American Astronomical Society's Small Research Grant program in support of her work on understanding the fundamental properties of star formation in dwarf galaxies.

## **Recently Awarded Observing Time**

McDonald Observatory 2.1 m (awarded for August 2010: 4 nights) – UBVR imaging of Dwarf Spiral Galaxies (WHT+TK4)

McDonald Observatory 2.1 m (awarded for March 2010: 4 nights) – UBVR imaging of Dwarf Irregular Galaxies and Dwarf Elliptical Galaxies (WHT+TK4)

McDonald Observatory 2.1 m (awarded for February 2009: 4 nights) – UBVR imaging of Dwarf Irregular Galaxies and Dwarf Elliptical Galaxies (WHT+TK4)

McDonald Observatory 2.1 m (July 2005: 4 nights) – UBVR<sub>I</sub>, H $\alpha$  imaging of Dwarf Irregular Galaxies (WHT+TK4)

Kitt Peak National Observatory 2.1 m (January 2005: 7 nights) — JHK Imaging of Dwarf Irregular Galaxies (SQUID) (PI: P. Marcum)