

PHYSICS COLLOQUIUM

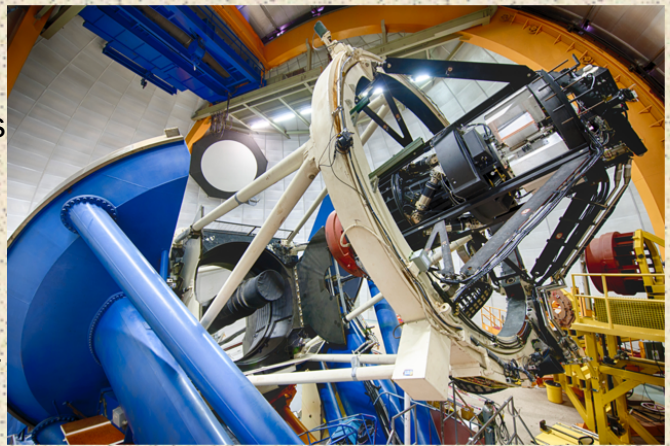
WITH

GARY BERNSTEIN

REESE FLOWER CHAIR OF ASTROPHYSICS AT THE UNIVERSITY OF PENNSYLVANIA

“Results from the Dark Energy Survey”

The Dark Energy Survey (DES) is a collaboration between UPenn and 15 other institutions in 7 countries to construct and operate a new 500 megapixel CCD camera on the venerable 4-meter Blanco telescope in Chile. Its five year mission: to survey 1/8 of the night sky in search of clues to the cause of the accelerating expansion of



the Universe. I will review the multiple pathways that DES uses to convert sky images into measures of the dark Universe, and focus on recent results obtained with the weak gravitational lensing and supernova methods using early DES data. DES is also having a major impact on astrophysical questions beyond dark energy, such as the contents of the outer Solar System, the cross-section of the dark-matter particle, the relic structures in the Milky Way halo, and the optical counterparts of gravity-wave sources.

Gary Bernstein is the Reese Flower Chair of Astrophysics at the University of Pennsylvania. After completing a PhD at UC Berkeley on observations of the cosmic microwave background radiation, he began work at Bell Laboratories on measurements of the dark components of the Universe using optical observations of gravitational lensing, and has continued focus on this pursuit through stays at the Universities of Arizona, Michigan, and Pennsylvania.

Thursday, March 8, 2018 in Lewis Lab. 316 at 4:10PM

Refreshments at 3:45PM