

THE UC RIVERSIDE PHYSICS AND ASTRONOMY DEPARTMENT PRESENTS:

# FRONTIERS OF COSMOLOGY LECTURE



Friday, June 7th  
Watkins Hall 1000  
5:00 PM: Reception  
6:00 PM: Lecture

This event is free and open to the public. The local community, and middle and high school students are strongly encouraged to attend.



**SCAN  
HERE TO  
REGISTER**



## ***GALAXIES AS ASTROPHYSICAL LABORATORIES FOR DARK MATTER***

**Laura Sales**

*Associate Professor in Astrophysics, UC Riverside*

In the prevailing cosmological model, most of the mass of the universe is in the form of "cold dark matter", an unknown form of matter that remains yet to be detected but is believed to govern the formation and evolution of cosmological structures. Dark matter defines the past, present and future history of the universe as it outlines the filaments of matter that are the backbone where galaxies, stars, planets and black holes form and evolve. Dark matter also holds together the gas and stars in galaxies, making galaxies excellent laboratories to study and understand the way dark matter operates. In this talk I will review our current understanding of how galaxies form and evolve surrounded by massive and extended dark matter halos, and how scientists are using numerical simulations from the most powerful supercomputers in the world along with observations from cutting-edge space- and ground-based telescopes to help us decipher new clues about the nature of dark matter.