Name: Heather Knutson
Email: hknutson@caltech.edu
Institution: Caltech
Title: From Hot Jupiters to Super-Earths: A Kepler-Centric Perspective on Exoplanetary Atmospheres
Type: Invited Talk
Session: Characterizing Transiting Planets
Abstract: In the four years since its launch, Kepler has revolutionized our understanding of the population of extrasolar planets, particularly at the low-mass end. Although Kepler was primarily designed as a planet discovery mission, its exquisite photometric precision has also provided a new window on exoplanetary atmospheres. In my talk I will review the major advances in our understanding of planetary atmospheres in the years since Kepler's launch, focusing on two main areas. First, I will discuss the growing evidence for a diversity of hot Jupiter albedos and their relation to the formation of spatially inhomogeneous cloud layers in the upper atmospheres of these planets. Second, I will examine the emerging constraints on the bulk compositions of planets in the super-Earth mass range, which have wide-ranging implications for our understanding of planet formation and the subsequent role of mass loss in shaping the atmospheres of low-mass, low-density planets.