



## COLLOQUIUM

Thursday, Mar. 13, 2025  
4pm Workman 101

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**Speaker:** Darcy Barron

**Affiliation:** University of New Mexico

### **Cosmology with the cosmic microwave background**

The cosmic microwave background (CMB) field has a sixty-year history of measurements and discoveries. Measurements of the temperature of the CMB are a cornerstone of our current model of the universe, the standard model of Big Bang cosmology. More precise measurements of the CMB and its polarization are motivated by outstanding questions in cosmology and particle physics, including seeking evidence of new particles and new physics. Building the next-generation ground-based CMB experiment, CMB-S4, is a priority of the astronomy and particle physics communities. The design is based on previous generations of successful CMB instruments, but must scale to an order of magnitude more detectors than any prior instrument. In this talk, I will discuss techniques, technologies, and challenges in making these precision microwave measurements.