



Department of Physics and Astronomy
SPRING 2025 Colloquium Series

“Searching for Light Dark Matter with Narrow-Gap Semiconductors”

Aaran Phipps

California State University - East Bay

Effective searches for sub-GeV particle dark matter require sensitivity to recoil energies below ~ 1 eV. The SPLENDOR (Search for Particles of Light Dark Matter with Narrow-Gap Semiconductors) collaboration is working to detect low-mass dark matter using novel narrow-gap semiconductor materials paired with ultra-low-noise charge amplifiers. In this talk, I will provide an overview of particle dark matter detection with low-temperature semiconductors, discuss the design and performance of our two-stage cryogenic charge amplifier, and share the current status of the SPLENDOR experiment. Additionally, I will reflect on my non-traditional path in physics—as a high school dropout, community college transfer student, and teenage parent.

Thursday, March 27, 2025

4:00 - 5:20PM

MND1015

Open & Free to all students, faculty and public