



Department of Physics and Astronomy
FALL 2026 Colloquium Series

“Data Science Solutions in Galactic Astrophysics”

Trey Wenger

CSU Chico

The morphological, chemical, and kinematic structure of our Galaxy, the Milky Way, is a constraint on models of galactic formation and evolution. I will present three probabilistic (Bayesian) models that are advancing our understanding of both the structure of the Galaxy as well as the physical conditions of the interstellar medium. First, I will demonstrate that a statistical flaw inflated the perceived width of the Milky Way disk in the Solar neighborhood for nearly forty years. Second, I will introduce a Bayesian model for astrophysical spectroscopy and highlight some new challenges to our understanding of the interstellar medium revealed by these models. Finally, I will showcase the capability of probabilistic models to test competing Galactic chemical evolution hypotheses with small, noisy datasets.

Thursday, Oct. 1, 2026
4:00 - 5:20PM

MND1015

Open & Free to all students, faculty and public