



52ND SLAC SUMMER INSTITUTE

The Art of Precision: Calculations and Measurements

Precision measurements and theoretical predictions are often critical to illuminating the physics governing the universe we live in. Comparing a precise measurement with a precise prediction is a window to new physics, often at energy scales beyond what can otherwise be probed. Similarly, pushing the precision and sensitivity of searches for new phenomenon opens new avenues for direct discoveries.

The lectures at the 52nd SLAC Summer Institute in 2024 will discuss the many ways that precision plays a key role in our attempts to better understand the fundamental workings of our universe. The Institute lectures are primarily aimed at senior graduate students and postdocs. Presentation of topical results, participant projects, Q&A sessions, poster sessions, and social events supplement the lectures to create an invigorating environment for all participants.

SCHOOL LECTURES

Higgs, Electroweak and QCD at the LHC
 Precision Flavor Physics
 Muon g-2 in the Standard Model
 Neutrino Astrophysics

CMB, Tensions and Precision Cosmology
 Standard Model Effective Field Theory
 Neutrino-Nucleus Interactions
 Precision Measurements for Dark Matter

The SLAC Summer Institute is hosted by Stanford University and co-sponsored by the US Department of Energy and SLAC National Accelerator Laboratory.

