

JOINT TUFTS/MIT COSMOLOGY SEMINAR

More Accurate Together: Opportunities in Multi-Survey Cosmology

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Over the next decade, large galaxy surveys will map billions of galaxies and probe cosmic structure formation with high statistical precision. This talk will outline opportunities and challenges of cosmological analyses in the presence of complex systematic effects using recent results from the Dark Energy Survey as pathfinder examples. In particular, I will describe different cosmological probes measured from photometric data and summarize the recent progress on combining galaxy clustering, weak lensing, cluster clustering and cluster abundances, as well as constraints on baryons and galaxy biasing from small scales. I will conclude with an outlook on cosmology analysis plans and challenges for future, much larger experiments such as Rubin Observatory's LSST, Roman Space Telescope and overlapping Cosmic Microwave Background and Radio surveys.

Tuesday, March 11, 2025, 2:30 pm
Cosman Seminar Room
Center for Theoretical Physics
Building 6C, Room 6C-442
Massachusetts Institute of Technology