



COSMIC CARTOGRAPHY WITH ROMAN: *Advances in Galaxy Structures, Distributions, Dark Matter, and Dark Energy*

July 14 – 18, 2025 | Space Telescope Science Institute, Baltimore, MD, USA

The Nancy Grace Roman Space Telescope, planned to launch in late 2026, will be capable of surveying the sky 1000 times faster than the Hubble Space Telescope with similar sensitivity and resolution. A combination of near-infrared imaging and spectroscopic surveys, designed by Roman's community-defined Core Community Surveys and General Astrophysics Survey programs, will generate unique data-sets and large-area maps of the sky that will catalyze scientific discovery across all of astrophysics. Roman's accurate mapping of stars, galaxies, and galaxy clusters will offer the unique ability to map our Universe, both the seen and the unseen.

THIS SYMPOSIUM AIMS TO FOCUS ON THE INTERSECTION OF DARK ENERGY AND DARK MATTER WITH GALAXY FORMATION AND EVOLUTION. It will explore the novel research that is possible only with large cosmic surveys and simulations and discuss how the community will be able to optimize scientific output with Roman in the future. Topics of discussion will include, but are not limited to, the expected impacts from Roman observations of galaxy clustering (including BAO/RSD), weak lensing, galaxy clusters, supernova cosmology, stellar streams, and dwarf galaxies. The symposium will strive to foster synergies between contemporaneous experiments to Roman, such as Euclid, Rubin, DESI, Simons Observatory, and SPT.

SOC

Ami Choi (NASA Goddard Space Flight Center; Co-Chair)
Javier Sanchez (STScI; Co-Chair)
Ori Fox (STScI)
Konrad Kuijken (Leiden University)
Patricia Larsen (Argonne National Laboratory)
Lado Samushia (Kansas State University)
Yun Wang (Caltech/IPAC)
Yuanyuan Zhang (NSF NOIRLab)

LOC

Leslie Beauchamp (STScI)
Annalisa Calamida (STScI)
Samantha Hoffmann (STScI)
Max Mutchler (STScI)
Cristina Oliveira (STScI)
Melissa Shahbandeh (STScI)
Shemiah Smith (STScI)

INVITED SPEAKERS

Alexandra Amon
(Princeton University)

Dillon Brout
(Boston University)

Tzu-Ching Chang
(JPL)

Martín Crocce
(Institute of Space Sciences, ICE, CSIC)

Jo Dunkley
(Princeton University)

Agnès Ferté
(SLAC)

Peter Ferguson
(University of Washington)

Andrew Hearin
(Argonne National Laboratory)

Henk Hoekstra
(Leiden University)

Michelle Ntampaka
(STScI)

Hee-Jong Seo
(Ohio University)

Tomomi Sunayama
(Academia Sinica Institute of
Astronomy and Astrophysics)

