BOSTON UNIVERSITY

Boston University College of Arts & Sciences
Institute for Astrophysical Research

2025 ASTROPHYSICS SEMINAR SERIES

James Webb Space Telescope breakthroughs in galaxy formation

For years, we have been eagerly anticipating the promising capabilities that the JWST would bring to bear on scientific questions across all fields of astrophysics -- from exoplanets, to Milky Way structure, to cosmology. How is the reality of using data from JWST shaping up to meet expectations? In this talk I will discuss how the major technical leaps of JWST -- its spatial resolution, its sensitivity and its wavelength coverage -- are impacting astrophysics, specifically extragalactic astronomy and cosmology. My group is using JWST to unveil the evolution of supermassive black holes in centers of galaxies across cosmic time. I will present results from these programs, where JWST is revealing the complex physics of the interaction between the supermassive black holes and their host galaxies in unprecedented detail -- including the direct detection of the shockwaves driven into the interstellar medium by quasar winds and the discovery of close-separation dual quasars at cosmic noon. Throughout the talk, I will present and discuss other extragalactic astronomy highlights from the first two years of JWST data.

Monday, February 10th

2:30 - 3:30 p.m.

725 Commonwealth Ave | Room 502

Dr. Nadia Zakamska

Johns Hopkins University