

Department of Physics and Materials Science



SEMINAR

What's new with JWST:

Surprises from the most distant galaxies to nearby black holes

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Abstract: The James Webb Space Telescope is performing even better than its specs. In particular, its unprecedented ability for diffraction-limited spectroscopy in the infrared is rapidly revolutionizing everything we thought we knew about how galaxies formed and evolved. This talk will describe some of these biggest surprises from JWST's first year. Remarkably distant little objects that look like 'galaxies' evidently got started doing what they do remarkably soon after the Big Bang. Meanwhile, in our local cosmic neighborhood, present-day giant black holes are also turning out differently from what we expected. JWST shows that we have missed a lot of them, and that the influence of their jets on their host galaxies may not be what we thought.

Bio: Matthew A. Malkan is currently a Distinguished Professor of Physics and Astronomy at the University of California Los Angeles. He makes multi-wavelength observations across the electromagnetic spectrum and measures very distant galaxies and how they have evolved across cosmic time, including the build-up of their stars, their heavy elements, and their giant black holes. He has authored or co-authored 500 articles in scientific journals. Malkan is a frequent scientific reviewer for NSF, NASA and other international agencies, including competitions for prize fellowships, and observing time with ground- and space-based telescopes. He is active in science outreach, including work in local K-12 schools, film projects, and programs for radio and television.

Malkan served as a Vice President in the International Astronomical Union from 2015-2019. He is a member of the National Science Board's class of 2020-2026.

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