

UCLA Division of Astronomy & Astrophysics

Astronomy Colloquium

Wednesday, Feb. 18 at 3:30 PM
Room 1-434 PAB

Dr. Aliza Beverage
Carnegie Observatories



Reading the Chemical Fossil Record of Massive Galaxies

Massive galaxies are key to understanding the universe: they form in the most extreme environments, host the largest supermassive black holes, and trace the underlying large-scale structure. Recent JWST observations have dramatically reshaped our view of these systems, revealing that they can assemble astonishingly rapidly and shut down star formation at very early times. Together, these discoveries pose a major challenge for models of galaxy evolution. In this talk, I will show how the chemical properties of galaxies provide a powerful way to address these challenges; stellar chemical abundances serve as a fossil record of past star formation and quenching. Recent JWST spectroscopic surveys are now enabling the first detailed chemical measurements of massive galaxies at early cosmic times. Interpreting these observations, however, requires chemical-evolution models that can link observed chemical properties to their formation histories. I will introduce such a framework and discuss what these new measurements are revealing about when and how the universe's most massive galaxies formed.

Hosted by Profs. Smadar Naoz, Alice Shapley and Erik Petigura.

Undergrads are welcome to attend.