

## The Assembly of Disk Galaxies: From Keck to JWST

One of the most important open issues in astronomy is the assembly of galactic disks, which are ubiquitous in the local universe. I will discuss recent results from my group that show the progressive (and mass-dependent) kinematic assembly of disk galaxies over a *continuous* range in redshift from the local universe to  $z=2.5$ . We find that galactic angular momentum increases with time on average, indicative of baryonic accretion. We also find that galaxies at high redshift have significant amounts of disordered motions in their gas (likely at least in part to outflows from star-formation), and these disordered motions decrease from  $z=2.5$  to today. These observations indicate that disk formation is intimately related to the baryon cycle and the intensity of star-formation in galaxies. Moreover, our results strongly challenge traditional analytic models of galaxy formation and provide an important benchmark for simulations.

I will also discuss my plans for using the multi-object spectrograph on JWST/NIRSpec to enrich our understanding of galaxy kinematics at intermediate redshift, and to extend measurements to the much earlier universe. From mock JWST observations of simulations of galaxies, we are learning that interpreting such high redshift observations is not necessarily straightforward.