

## ASTROPHYSICS SEMINAR SERIES



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# A Tale of Circumgalactic Gas: Large and Small scales

In recent years, our understanding of how galaxies form and evolve have matured dramatically. The newest set of numerical simulations can successfully reproduce both the stellar content of galaxies and their large scale statistical properties. However, these models still fail to match the observed properties of the diffuse gas, which span hundreds of kiloparsecs beyond the visible stellar disks of the galaxies. Understanding the complex physical processes that dictate this circumgalactic space is a crucial next step towards creating a comprehensive model of galaxy evolution. I will highlight some of our recent results in characterizing this circumgalactic gas both in small and large scales. I will also relate how ubiquitously observed circumgalactic HI relates with the ionized reservoirs of circumgalactic gas around galaxies. These will provide empirical bedrocks to identify the dominant mechanisms that govern the circumgalactic gas in driving galaxy evolution.



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