

# Astrophysics Seminar

## Monday, September 14, 2015

### Massive Quiescent Disks in the Early Universe

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#### Abstract:

Observations in the local Universe suggest that the mechanism responsible for quenching star formation in galaxies may be intimately linked to their structural transformation from disks to spheroids. In order to test quenching scenarios, however, it is vital to look beyond the local Universe and identify the first generation of quiescent galaxies at high redshift. Using CANDELS, we have examined the rest-frame visible morphologies of the most massive, quiescent galaxies at  $z > 1$ . Interestingly, a significant fraction (~30%) have morphologies dominated by massive exponential disks. The persistence of massive disks, long after star formation has ceased, implies that in at least some cases quenching precedes morphological transformation. I'll examine what constraints these observations place on the mechanisms responsible for quenching the first generation of passive galaxies at  $z \sim 2$  and discuss them in context with an emerging picture of massive galaxy formation and evolution.

**3:15 pm**

Refreshments  
CAS Room 500

**3:30 pm**

Seminar  
CAS Room 502

#### Next Week

- Catherine Espaillat  
*BU Institute for  
Astrophysical Research*
- Tracking Planet Footprints  
in Dusty Disks

