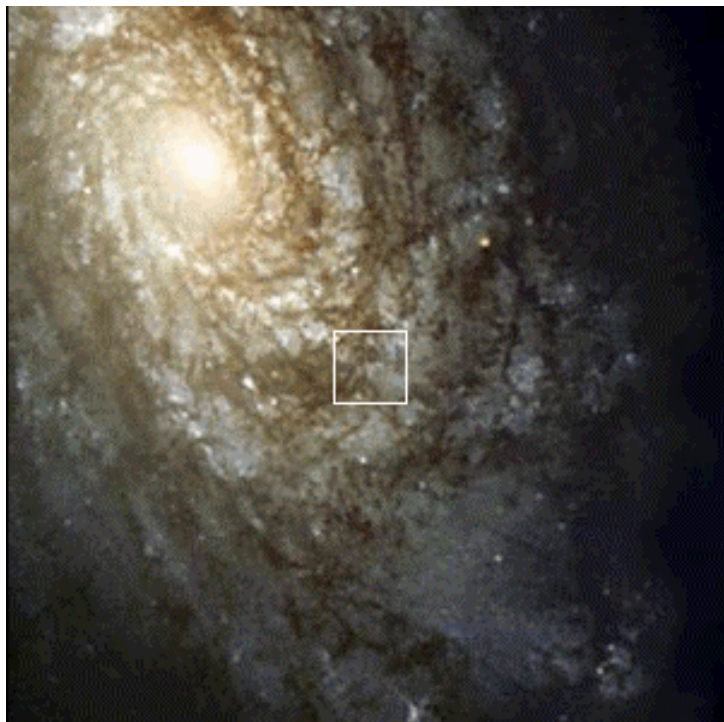


Structure in the Universe  
**and**  
Dark Matter

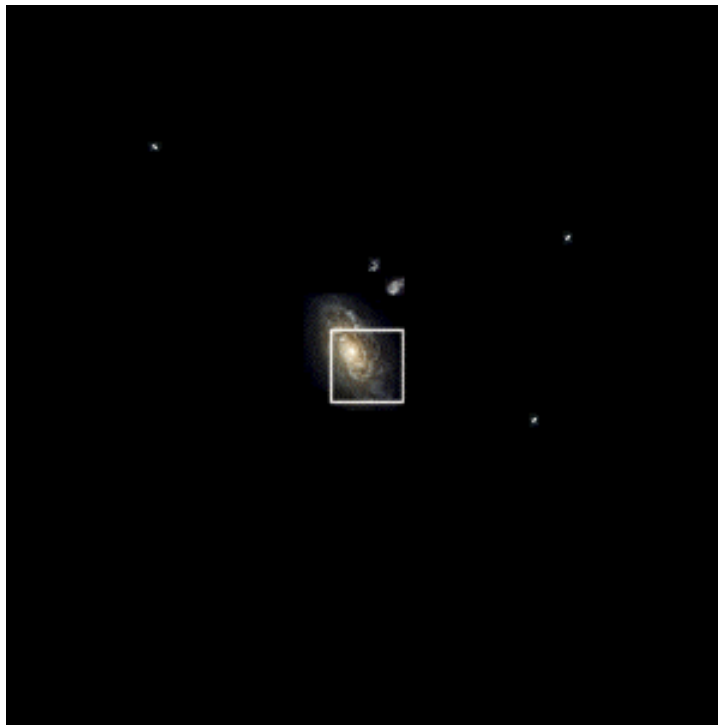
**A Chautauqua Short Course for College Teachers**

*Scott Dodelson*  
*October 26, 2001*

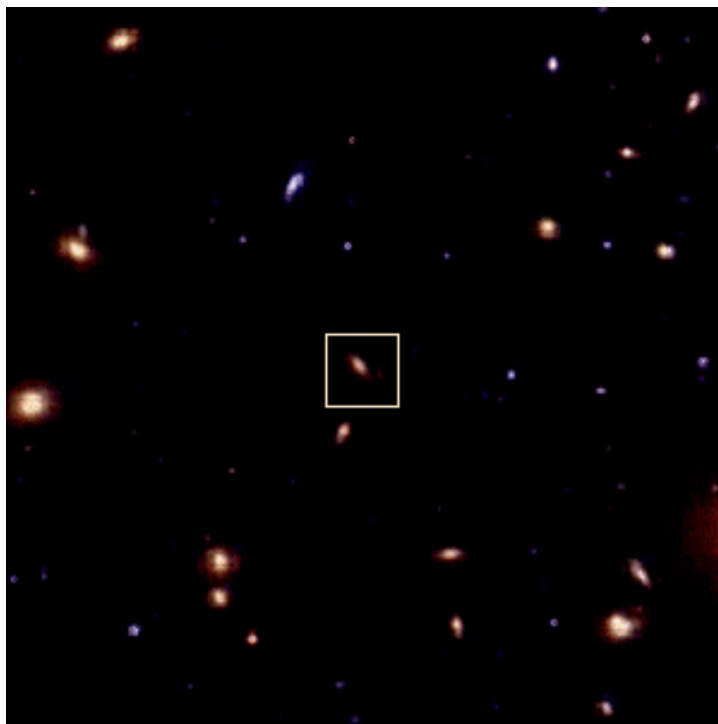
# Our Galaxy



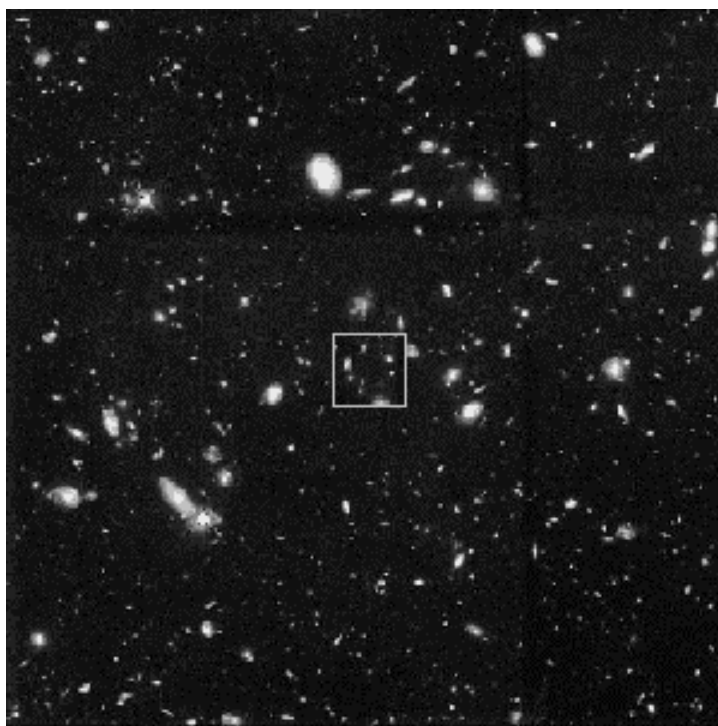
# Local Group



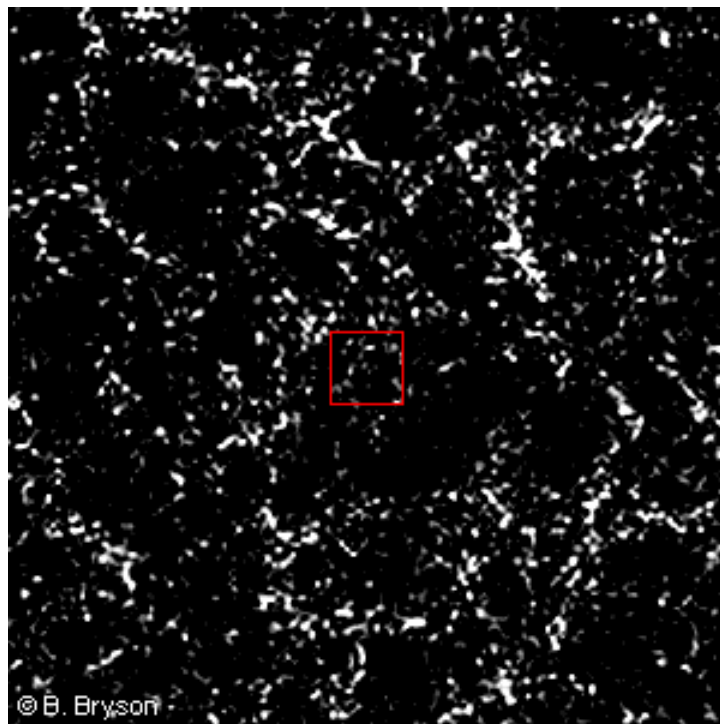
# Virgo Cluster



# Galaxy Clusters



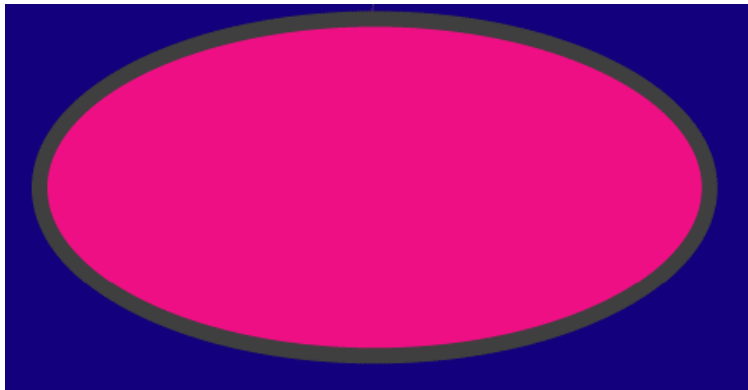
# Large Scale Structure



Where does this structure come from?

Ancient question has added potency:

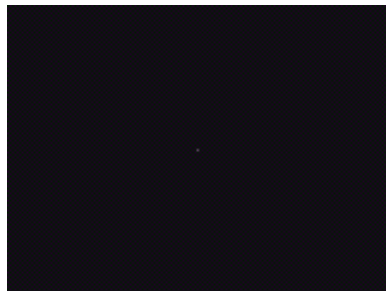
How did we get from ...



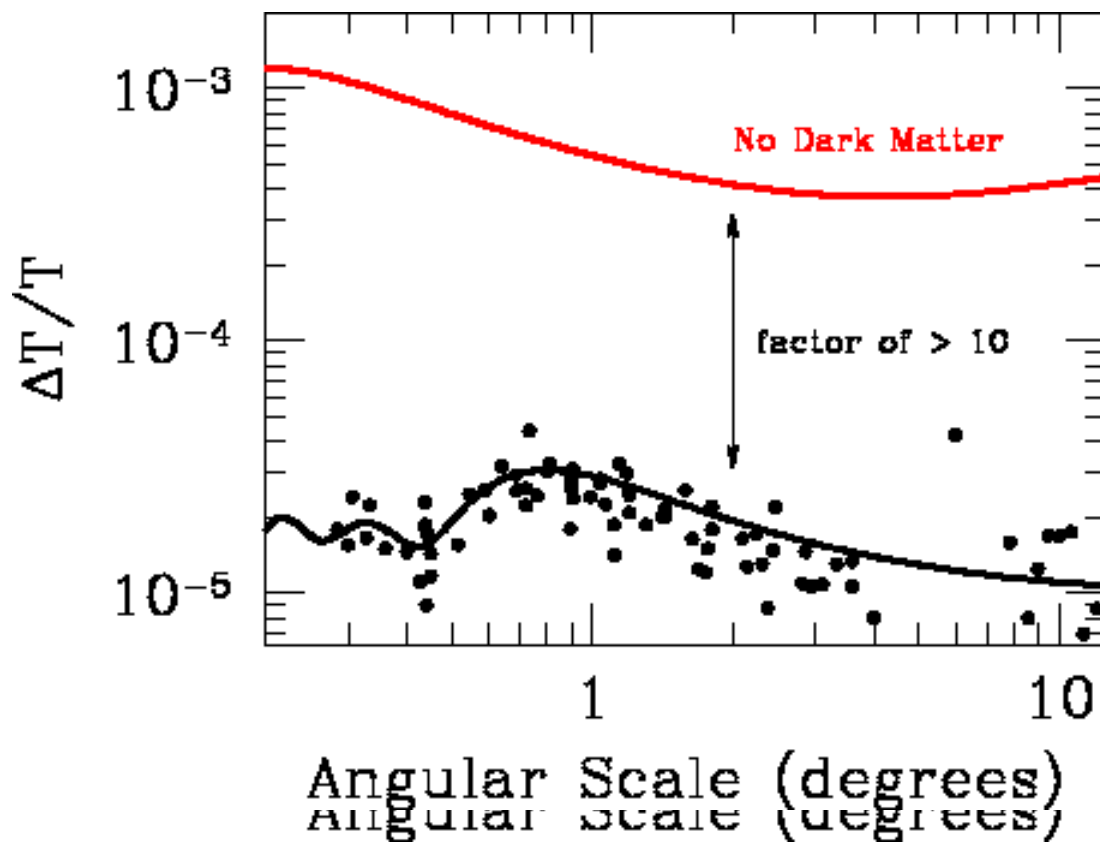
to



# Evolution of Structure: Gravitational Instability



Are the CMB fluctuations large enough to produce large scale structure?



Technical Resource:

# Conclusion:

Coherent picture of structure formation consistent with stunning measurements of anisotropy in Cosmic Microwave Background ...

As long as Dark Matter, a new particle linked to physics beyond the Standard Model, exists!