



ESO WORKSHOP

Fornax, Virgo, Coma et al.

Stellar systems in high density environments

ESO Garching, Germany
27 June–01 July 2011

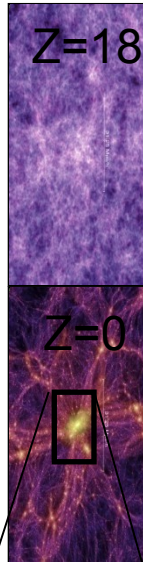


Galaxy Formation and Evolution

- Hierarchical accretion/merging
 - Matter clumps through gravitation
 - Primordial gas starts forming first stars
 - Stars produce heavier elements ('metals')
 - Subsequent generations of stars: more metals
 - Massive galaxies assembled from smaller units

- Galaxy encounters still occur
 - Minor accretion to major merging
 - Galaxies continue to evolve

- Super-massive central black hole also influences evolution



Observational Approaches

- Study very distant galaxies
 - Observe evolution (far away = long ago)
 - Objects faint and small: little information

- Study nearby galaxies
 - Light not resolved in individual stars
 - Objects large & bright: structure accessible
 - Infer evolution through archaeology
 - Fossil record is cleanest in early-type galaxies

- Study resolved stellar populations
 - Ages, metallicities and motions of stars
 - Archaeology of Galaxy and its neighbors



This Conference

- What can we learn from nearby clusters
 - Star formation history in massive galaxies
 - Dependence on local density
 - Role of the central black hole
- Observations
 - Multi-wavelength imaging
 - Integral-field spectroscopy
- Theoretical models
 - Match predictions to observations
- Forward look
 - Opportunities for VLT and E-ELT

E-ELT

- Site selected and access guaranteed
- Design essentially ready
 - Resizing to 39.3m reduces risk and contains cost
 - Retain adaptive design and unique exoplanet science
 - Can be built in 10-11 years: *opportunity to be first*
- Viable funding model
 - Entire programme affordable for 15 MS if baseline funding scenario is implemented
 - More and more MS ready to commit
- ESO internally ready for construction by 1 Oct
- Everything on track for green light in Dec 2011

