**Dark matter and structure formation in the Universe?**

**Precision cosmology**

**Initial conditions**
With a known cosmology we can generate initial conditions (ICs) that trace the matter distribution of the Universe at high redshifts (z~100) (Efstathiou, 1985, ApJS, 57, 241; Bertschinger, 2001, ApJS, 137, 1).

**Simulation of dark matter evolution**
The ICs can be evolved in supercomputers using N-body codes (Springel, 2005, MNRAS, 364, 1105). The simulation results in a model Universe that can be used to study the formation and evolution of galaxies (Springel, 2005, Nat, 435, 629).

**Global properties of dark matter haloes**

**Detailed properties of dark matter haloes**