The dark and bright sides of galaxy formation

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The standard paradigm of structure formation in the Universe relies on the concept of halo as the building block of structure. Over 80% of the mass of a halo is of an unknown form, i.e. dark matter. The remaining fraction is in the form of baryons, i.e. the ordinary matter that makes stars, planets and astrophysicists. In recent years space-based observatories (such as HST or GALEX) have revolutionised our views of galaxy formation. In combination with ground-based surveys and numerical simulations, we begin to draw a clear picture of the transition from the homogeneous distribution of matter after recombination to the present Universe we see today. In this talk I will give a general overview of the recent achievements in the area, with special emphasis on elliptical galaxies, arguably the best systems to probe the baryon physics of galaxy formation.