Over the past ten years, several numerical investigations have reported that large-scale structures, i.e. cosmic filaments and sheets, influence the kinematics and morphology of dark haloes and galaxies. Thus, it has been shown that massive haloes have their angular momentum (spin) preferentially perpendicular to their neighboring filament and higher spin parameters while low-mass haloes tend to show a parallel orientation of the spin.

Using the cosmological hydrodynamical Horizon-AGN simulation, we have recently uncovered a similar trend for galaxies: the AM of low-mass, rotation-dominated, blue, star-forming galaxies is preferentially aligned with their filaments, whereas high-mass, velocity dispersion- supported, red quiescent galaxies tend to possess an AM perpendicular to these filaments. Moreover, we were able to associate a transition mass to this change in spin orientation, which loosely corresponds to the characteristic mass at which a halo extent becomes comparable to that of the vorticity quadrant in which it is embedded within its host filament.

These predictions have recently received their first observational support (Tempel & Libeskind 2013). Analyzing Sloan Digital Sky Survey (SDSS) data, these authors uncovered a trend for spiral galaxies to align with nearby structures, as well as a trend for elliptical galaxies to be perpendicular to them.

The key idea that emerged from all these studies is that lighter galaxies might acquire most of their spin through secondary infall from their (aligned with the filament) vorticity rich environment, while more massive galaxies would rather acquire a large fraction of theirs via orbital momentum transfer during merger events which mainly take place along the direction of the large scale filament closest to them.

We have recently confronted this scenario to numerical data and uncovered the major influence of mergers and smooth accretion on the properties of galaxies, noticeably the re-orientation of galactic spins relative to cosmic filaments.

In this talk, I will revisit these significant findings with an emphasis both on exploring the physical mechanisms which drive halo's and galactic spin swings and on quantifying how much mergers and smooth accretion re-orient these spins relative to cosmic filaments. After a brief review of recent achievements on this topic, I will develop in details the dynamical scenario that has emerged from these studies and present the recent results that strongly support these mechanisms. In particular, I will analyze the effect of mergers and smooth accretion on spin orientation, spin magnitude, dispersion and morphology for haloes and galaxies. The latter is of particular interest since correlated galactic morphologies are expected to be a major source of error in weak gravitational lensing surveys. Eventually I will discuss potential tracers for prospective observational confrontation. If time, I will discuss the comparative influence of dry and wet mergers on the morphology of galaxies.