

Seminarium Astrofizyczne

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<https://zoom.us/j/439968736>

Meeting ID: 439 968 736

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Co-evolution of galaxies and the multi-scale cosmic web at high redshift: from predictions to observations

The multi-scale cosmic web is the environment in which galaxies form and evolve. Gas flows along walls and filaments, penetrates within dark matter haloes and brings to the galaxies both angular momentum and fuel for star formation. Recent observational studies at low and intermediate redshifts have shown evidence that the cosmic web environment (e.g. proximity to cosmic filaments, or number of filaments connected to the galaxies sitting at the “nodes”) modulates galaxy mass assembly and morphology beyond the mere effect of halo mass and local density. I will briefly review these works and present in more details the analyses that we carried out on the photometric field COSMOS as a pilot study for EUCLID, with the help of well-calibrated mocks. Based on results from hydrodynamical simulations, I will explain why we indeed expect that the multi-scale cosmic web plays an important role in shaping the diversity of accretion histories onto galaxies at fixed mass and density, and I will highlight the difficulties that we have to face observationally to confirm this scenario.

Serdecznie zapraszam,
Agnieszka Majczyna