Seminarium Astrofizyczne

wtorek 30.06.2020 godz. **12:00**

https://zoom.us/j/439968736
Meeting ID: 439 968 736
Password: 072094

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Galaxy collisions across cosmic times - Star formation and recycled galaxies

In the first part, I will discuss the impact of galaxy mergers on star formation across cosmic times. In the local Universe, galaxy interactions are known to be able to trigger intense episodes of star formation. However, this phenomenon was observed to unexpectedly decline with redshift (see e.g. Schreiber et al., 2015). Our numerical studies show how the disk instabilities due to the elevated gas mass fraction of high-redshift galaxies (~50% at z = 2) saturates their star formation activity. This saturation explains the observed decreasing efficiency of mergers to trigger starbursts with redshift. I will show how this result highlights the important role of the gas mass fraction of galaxies in the regulation of star formation throughout the cosmic star formation history.

In the second part, I will present the latest results from our team on the topic of Ultra-Diffuse Galaxies (UDGs). Using MUSE@VLT we could determine the kinematics and stellar populations of stars and GCs of NGC 1052-DF2, a UDG with a probable dark matter deficiency (van Dokkum et al., 2018). I will discuss how its puzzling characteristics relate to other galaxies and in particular to tidal dwarf galaxies. These recycled objects, which are formed from enriched gas expelled after galaxy interactions are also dark matter deficient and very efficient at forming Super-Star Clusters (Fensch et al., 2019). I will discuss to which extent this process could provide a new formation channel for a specific class of UDGs.

Serdecznie zapraszam,
Agnieszka Majczyna