

## **Seminarium Szkoły Doktorskiej NCBJ**

**Thursday, 2 December, 9:00**

**<https://www.gotomeet.me/NCBJmeetings/phd-seminar>**

**Speaker:**

**Luis Eduardo Suelves (Szkoła Doktorska NCBJ)**

**Title:**

**Photometry-based merger identification through Neural Network.**

**Abstract:**

The evolution and dynamics of the galactic population are key elements for modeling the Universe history and structure. Within the Cold Dark Matter model, the gravitational pull between galaxies can lead to mergers: hierarchical growth interactions in which one galaxy "collides" with another, combining their stellar population, interstellar dust, and dark matter halos. This is likely to enhance the stellar formation in the daughter galaxy, influence its evolutionary history and modify strongly the shape of the original galaxies during the process.

Identifying galaxy mergers (and galaxy morphologies in general) is a very elementary modern astronomy problem, and it is crucial to understand these phenomena, their time scale, and their implications. I will present the projects I have been working on during my PhD. I have been working on galaxy mergers classification by means of Machine Learning methods, using real astronomical images (Pearson, Suelves et al. 2021, submitted to A&A) and photometric measurements (Suelves et al. 2021, in preparation)