**Seminarium Astrofizyczne**

**wtorek 25 godz. 12:30**

**ul. Pasteura 7, sala 404  
transmisja on line  
https://meet.goto.com/NCBJmeetings/seminarium-astrofizyczne  
Password: AstroSemi**

**Dr. Subhrata Dey  
(National Centre of Nuclear Research, Warsaw)**

**Bridging the Gap: From UV/IR to Radio via SED Modeling of Infrared Bright Galaxies**

Luminous and Ultra-luminous Infrared Galaxies (U/LIRGs) are extreme star-forming galaxies, typically triggered by interactions or mergers of gas-rich galaxies. Their infrared emission is dominated by warm dust heated by active galactic nuclei (AGN) and starbursts, positioning them as a transitional phase between gas-rich galaxies and red, dead ellipticals. U/LIRGs offer a unique laboratory for studying the evolution from star-forming galaxies to elliptical galaxies.

In this seminar, I will discuss the global astrophysical properties of a sample of 25 infrared-bright galaxies, combining the SED modeling results of 11 nearby LIRGs (z < 0.04) and 14 ULIRGs (z < 0.5) across UV, IR, and radio wavelengths. The focus will be on bridging UV-IR and radio-only SED modeling, which have typically been studied independently. By combining these regimes, I aim to gain deeper insights into the physical processes driving galaxy evolution.

Additionally, we introduce a physically motivated approach to radio-only SED modeling, considering absorption at low frequencies and the complex nature of radio continuum emission originating from multiple star-forming regions with varying compositions or geometric orientations. I will also present our efforts to calibrate the radio continuum emission to derive the radio star formation rate (SFR), which serves as an extinction-free diagnostic of star formation activity.  
  
Serdecznie zapraszam,  
William Pearson, on behalf of the SOC