

## **Seminarium Szkoły Doktorskiej NCBJ**

**Thursday, 7 March 2024, 9:15  
room 207, Pasteura 7**

**<https://www.gotomeet.me/NCBJmeetings/phd-seminar>  
[https://events.ncbj.gov.pl/e/Seminar\\_23\\_24](https://events.ncbj.gov.pl/e/Seminar_23_24)**

**Speaker:**

**Juan Esau Cervantes-Hernandez (Szkoła Doktorska NCBJ)**

**Title:**

**Shedding light onto the dark freeze-out with FIMPs**

**Abstract:**

In this presentation, I will discuss the concept of "Self Interacting Dark Matter," a hypothesis positing that the observed abundance of DM can be elucidated through a secluded dark sector engaging in self-number changing reactions. Additionally, I will introduce the freeze-in mechanism, relying on feeble couplings between the Standard Model (SM) and the dark sector. The latter is anticipated to be populated through annihilation/decay processes involving the Higgs boson. Ultimately, I will integrate both concepts, demonstrating how the dark sector can convert kinetic energy into additional dark matter through self-interactions.