

# Data Analysis L2: Probability density functions and Monte Carlo methods

*Wednesday 9 July 2025 12:30 (1 hour)*

In this lecture we will discuss what probability density functions (PDFs) are, and what are their main properties. We will mention the most important PDFs and their properties both for discrete and continuous random variables. The importance of the Gaussian distribution lies in the Central Limit Theorem that will be discussed. Finally, we will discuss the concept of Monte Carlo methods and their usage in High Energy Physics and Data Analysis.

## Summary

**Presenter:** SCULAC, Toni