

# Pushing the Frontiers: Precision and Discovery at the LHC

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The Large Hadron Collider (LHC) at CERN is currently our most powerful tool for exploring the fundamental laws of nature at the energy frontier. Beyond its role as a discovery machine, the LHC has also demonstrated remarkable capability as a precision machine. In this presentation, I will highlight key results from precision measurements of Standard Model processes and searches for new phenomena conducted by the ATLAS and CMS experiments, based on the complete Run 2 dataset and, in some cases, a partial Run 3 dataset. Additionally, I will outline the potential of the high-luminosity phase of the LHC (HL-LHC) for further advancing our understanding, paving the way for future discoveries.

**Author:** JUSTE ROZAS, Aurelio (ICREA and IFAE (ES))

**Presenter:** JUSTE ROZAS, Aurelio (ICREA and IFAE (ES))

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