

# Preparation for Scientific Research and Internship Orientation

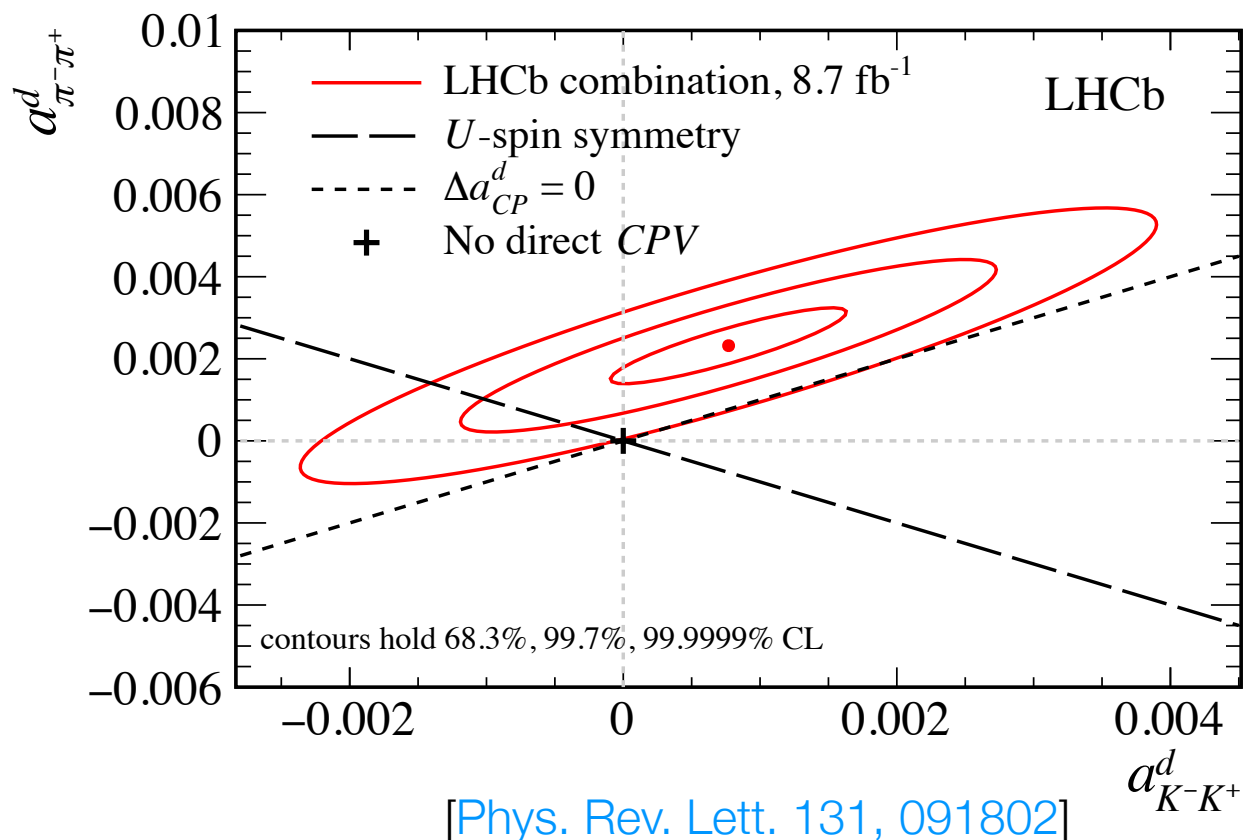
Serena Maccolini

IMAPP Welcome Day  
September 13, 2024

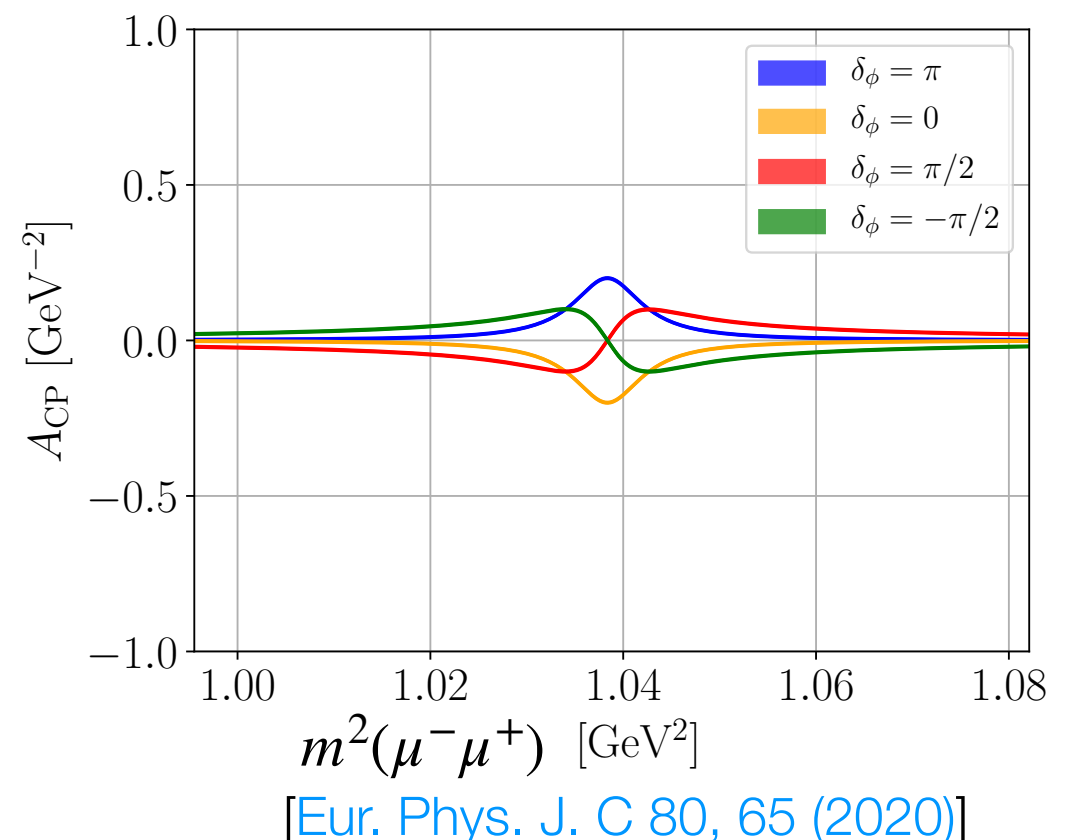
# About me

- Researcher at **TU Dortmund University** and associate to the LHCb experiment at CERN
- Focus on Charm physics:  
*CP* violation as a *null test* of the Standard Model

**hadronic decays:** eg.  $D^0 \rightarrow K^- K^+$ ,  $D^0 \rightarrow \pi^- \pi^+$



**semileptonic decays:** eg.  $D_{(s)}^+ \rightarrow \pi^+ \mu^- \mu^+$ ,  $\Lambda_c^+ \rightarrow p \mu^- \mu^+$





# Target and structure of the course

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- **Orientation** for your future internship:
  - collection of available projects from different institutes
  - several invited seminars
- Furnish the **necessary skills** for your Master's Thesis:
  - 10h course on *analysis strategies and methods* (typical physics observables and how-to measure them)
    - *Program* not yet finalised, avoiding overlap with other courses, trying to fit the available projects
    - *Final exam*: analysis of real or simulated data (1-2 pages)
    - *Wishes and Feedbacks* are welcome
- **Reminder**: in case you choose a destination outside IMAPP universities, please apply for the scholarship!!