

# **BND Graduate School 2023**

**Monday, 7 August 2023 - Friday, 18 August 2023**

## **Scientific Programme**

An overview of scientific program of the 2023 edition of the BND School is shown in this page. The aim is to have a total of 28 lectures/exercises (~3 per day), where the Saturday afternoon and Sunday are free. Additionally the students will work on a project in small teams throughout the school (1 slot per day).

**The typical day structure is:**

09:00-10:30 - Lecture / Project

Coffee Break

11:00-12:30 - Lecture / Project

Lunch Break

14:00-15:30 - Lecture / Project

Coffee Break

16:00-17:30 - Lecture / Project

The topics which will be discussed during the school are listed below. For all topics 4 lectures including exercises can be expected. For details on the timetable please refer to the item "Timetable" in the Indico page menu.

**Discussed topics**

- Quantum computing and quantum machine learning *by PD Dr. Jeannette Lorenz & Dr. Federico Meloni*
- Beyond SM physics with axions, long-lived particles and the dark sector *by Dr. Felix Kling*
- High-energy cosmic ray astrophysics *by Prof. Karl-Heinz Kampert*
- Instrumentation for gravitational wave detection *by Prof. Conor Mow-Lowry*
- Recent developments in flavour physics *by Dr. Wouter Hulsbergen*
- Higgs and EW physics including EFT interpretation *by Prof. Celine Degrande*
- Advanced (tracking) detectors *by Prof. Ingrid Gregor*

**Students project**

Muon tomography *by Marwa Al Moussawi and Maxime Lagrange*