

Welcome to the Terascale Monte Carlo School

HELMHOLTZ

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PHYSICS AT THE TERASCALE



Deutsches Elektronen-Synchrotron DESY + + + Karlsruher Institut für Technologie + + + Max-Planck-Institut für Physik München + + +
Rheinisch-Westfälische Technische Hochschule Aachen + + + Humboldt-Universität zu Berlin + + + Rheinische Friedrich-Wilhelms-Universität Bonn + + +
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Würzburg + + + Bergische Universität Wuppertal + + +

Monte Carlo School 2025

DESY Hamburg

24-28 November 2025

Lectures:

- Introduction (Hard scattering, matrix element, Parton showers, Sudakov form factor, underlying event (QCD radiation and MPI), hadronization, weighting, integration, phase space, random numbers, veto,...)
- NLO and higher-order calculations
- Resummation
- Matching parton showers to fixed order calculations
- Parton shower accuracy
- Handling negative weights
- Parton distribution functions

During the hands-on tutorial you will learn how Monte Carlo methods can be applied.

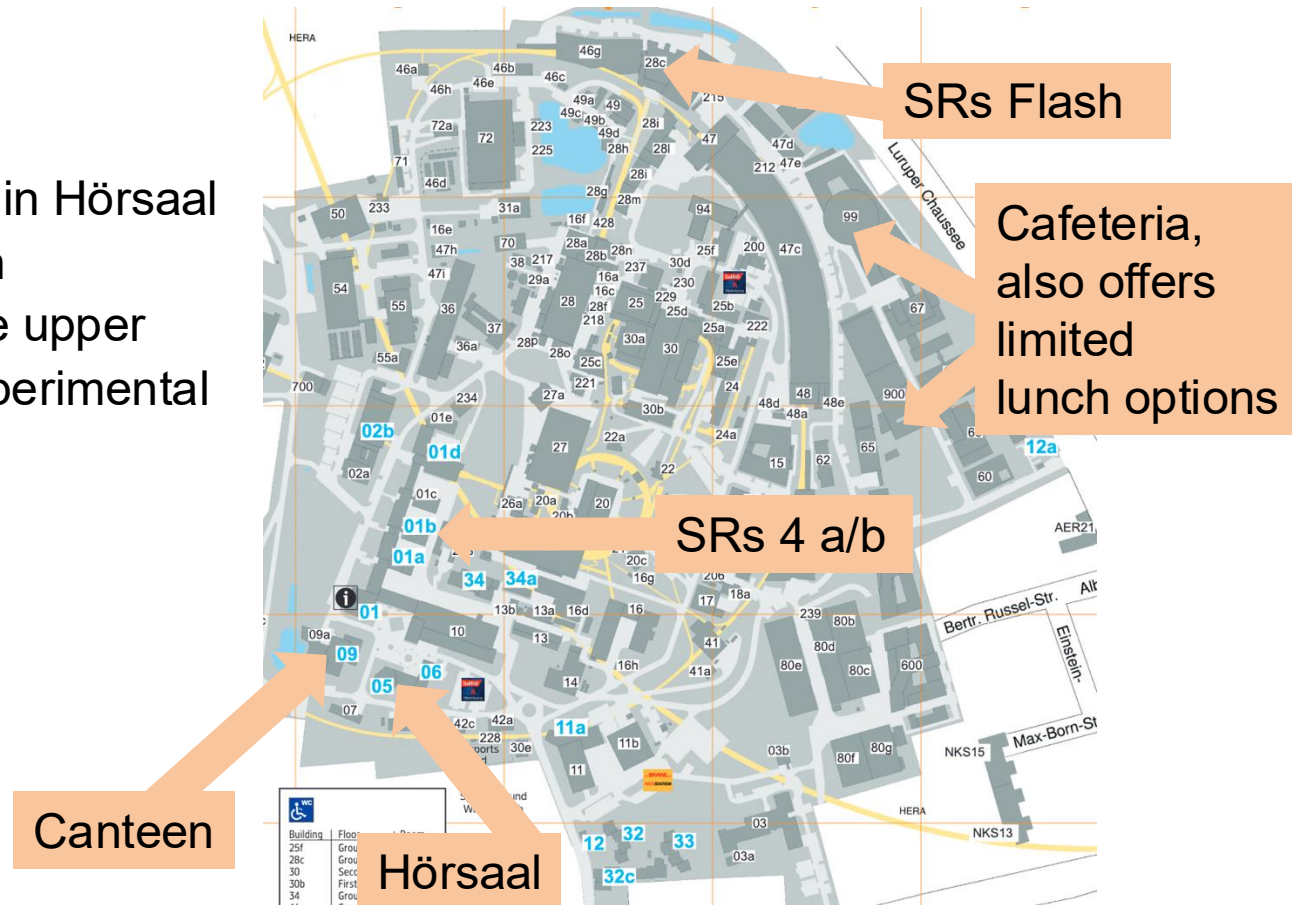
Registration fee: 100 Euro.
Registration deadline: 03.11.2025
Register here: https://indico.desy.de/e/MC_2025



A bit of organization

Rooms and lunches

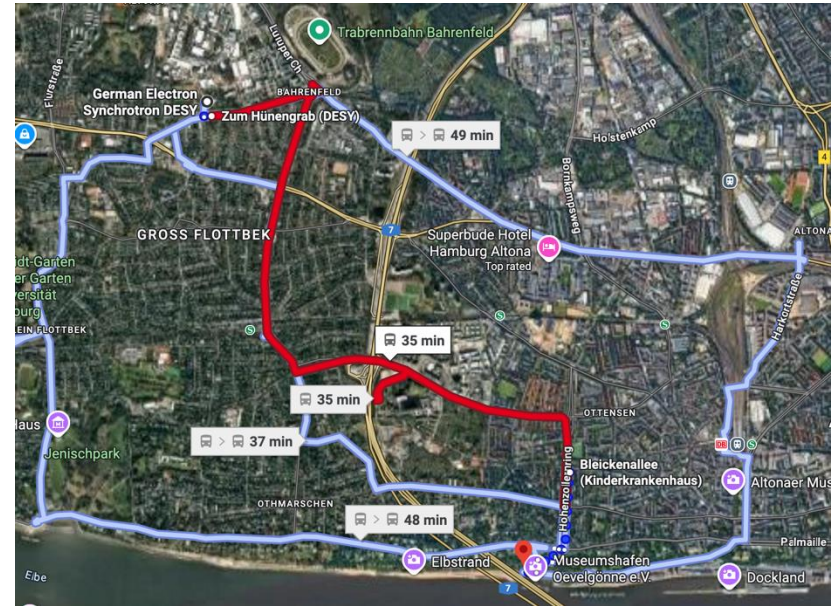
- Monday: Hörsaal
- Tuesday: SR 4a/b
- Wednesday: Morning in Hörsaal
Afternoon in SR Flash
The Flash SR is in the upper floor, on top of the experimental hall
- Thursday: SR 4a/b
- Friday: Hörsaal



A bit of organization

Dinner

- Wednesday 19:00
at Hoppe's Restaurant,
Övelgönne 6
- Public transport: Bus 1 + 15min
Tickets cannot be purchased on bus
Tickets via hvv App iOS / Android or
DB Navigator
- Pannfisch: Salmon and redfish fillet,
potatos or
Forest mushroom risotto (vegetarian)



<https://maps.app.goo.gl/smc74aj2ivthUrHTA>

