

Prof. Dr. Torben FERBER (he/him)

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Short biography (last updated 06/2025)

Torben did his PhD work on the OPERA neutrino oscillation experiment at the University of Hamburg (title: “Limits on neutrino oscillations in the CNGS neutrino beam and event classification with the OPERA detector,”, supervisors Prof. Schmidt-Parzefall/Prof. Caren Hagner). He moved to a postdoctoral position at DESY (with Carsten Niebuhr) working on the Belle and Belle II experiments. Torben continued to work on Belle II at his second postdoctoral position at the University of British Columbia in Canada (with Prof. Chris Hearty). In 2018 he became the leader of a Helmholtz Young Investigators group at DESY and the University of Hamburg. Since August 2021 Ferber is professor for experimental particle physics at KIT.

Torben group works on searches for light Dark Matter, long-lived particles (LLPs), dark sector particles, and on flavour physics. They are developing new methods of calorimeter and track reconstruction, including real-time algorithms for FPGAs. He is member of Belle II, LUXE, SHiP and the DELight collaborations. Torben is also active in various theory projects to improve our understanding of light Dark Matter and BSM searches at colliders and future facilities.

Engagement in the Research System (selected):

- since 2024: Convenor of the CERN Physics Beyond Collider (PBC) BSM group
- since 2024: Belle II Trigger Upgrade Coordinator
- since 2023: Member of the CERN LHC Experiments Committee (LHCC)
- 2019 - 2021: Physics performance coordinator at Belle II

A physics performance coordinator is responsible for overseeing the reconstruction inputs (e.g. efficiencies, systematic uncertainties, or correction factors for high-level reconstruction objects)