

Lecture Title Experimental Physics at Lepton Colliders

Lecturer's name Frank Simon

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Short CV Senior staff scientist and group leader at Max-Planck-Institute for Physics, Germany.
Chair of the LHC Experiments Committee (LHCC)

Current scientific activities on Physics & Detectors for future colliders (CLIC, FCC-ee, ILC), calorimeter R&D (CALICE), flavour physics (Belle II).

Past involvement in STAR at RHIC (heavy ion and polarized pp collisions), COMPASS (fixed target at SPS), plasma wakefield acceleration (AWAKE) and micropattern gas detector R&D.

PhD in 2005 at TU Munich, Germany.

Lecture Content The lecture will give an overview over a wide range of aspects of the experimental program at future lepton colliders. Particular emphasis will be placed on “Higgs-Top-Electroweak Factories” discussed as the highest-priority next generation collider and their capabilities for the exploration of the Higgs sector and other precision measurements. Facility-dependent experimental requirements, features and strategies will also be discussed.

Pre-requisites:
earlier series of lectures
that the students
should follow Basic knowledge of Standard-Model (Lecture by C. Grojean) and Beyond-Standard Model (Lecture by T. You) physics; Experiments at Hadron Colliders (Lecture by M. Kado).

Other pre-requisites: