

SUMMER STUDENT LECTURE PROGRAMME 2017

Lecture Title **Physics at Future Colliders**

Lecturer's name Mogens Dam

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Short CV

- My first encounter with HEP was as a summer student in the UA1 experiment, which, together with its sister experiment UA2, is famous for the discovery of the W and Z bosons
- From 1985 to 1995, I worked at the DELPHI experiment at LEP on the precise determination of electroweak parameters. Specifically, I was involved in the measurement of the Z lineshape and of the tau polarisation.
- From 1995 to 2000 I worked on the HERA-B experiment at DESY in particular on the setting up of the second level trigger system.
- Since 2000 I have been working in the ATLAS experiment. Activities include the development of hardware and software for the ATLAS TRT (outer part of the ATLAS tracking system) and development of algorithms for the identification of tau leptons. Currently I am engaged in the construction of the new tracking system for the high luminosity LHC running.
- Since 2013, I have been working on studies aiming at the construction of a new large circular collider at CERN. In particular, I am studying a electron-positron collider which in four steps of operation would function as a factory for the production of large numbers of Z, W and Higgs bosons and of top quarks.

Office hours
(hour/place - if relevant)

Pre-requisites:
earlier series of lectures
that the students
should follow

A broad knowledge of particle physics is advantageous. In particular the lecture series by Andrew Cohen, Michale Kramer, Gautier Hamel de Monchenault, and Christophe Grojean. Possibly also some knowledge of accelerators: Verena Kain and Daniel Schulte

Other pre-requisites: