Title: Physics at Hadronic Colliders

Lecturer: Prof. Beate Heinemann

Date and Times:

- 21st July at 11:15
- 22nd July at 10:15
- 23rd July at 11:15
- 24th July at 10:15

Summary of the proposed talk:

Hadron colliders are often called "discovery machines" since they produce the highest mass particles and thus give often the best chance to discover new high mass particles. Currently they are particularly topical since the Large Hadron Collider will start operating later this year, increasing the centre-of-mass energy by a factor of seven compared to the current highest energy collider, the Tevatron. I will review the benefits and challenges of hadron colliders and review some of the current physics results from the Tevatron and give an outlook to the future results we are hoping for at the LHC.

Prerequisite knowledge and references:

Introduction to Particle Physics (F. Close), Detectors (W. Riegler, at least mostly) and The Standard Model (A. Pich)

Biography-

Brief CV:

Undergraduate and graduate student at Hamburg University in Germany (until 1999). Postdoctoral fellow at the University of Liverpool (2000-2006). Since 2007 associate professor at UC Berkeley and scientist at Lawrence Berkeley National Laboratory. Worked on deep inelastric scattering at H1 experiment at HERA, then on proton-antiproton collisions at the CDF experiment at the Tevatron and now on the ATLAS experiment at the LHC.

Publications: