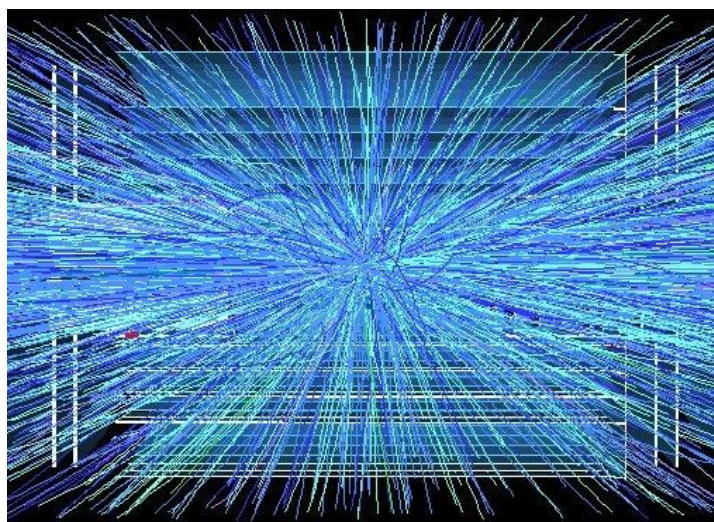




# LHC and Detector Upgrades.

**Susanne Kühn (Albert-Ludwigs-University Freiburg)**

**Tuesday, 2 December 2014**  
**17:00 h, Auditorium**



The LHC and its experiments are preparing for restarting operation in 2015 at a centre-of-mass energy of 13 TeV and later at 14 TeV. In the following six years a total amount of  $\sim 300 \text{ fb}^{-1}$  of integrated luminosity is planned to be collected. In about ten years from now the phase of the high-luminosity LHC (HL-LHC) is foreseen to start. By a ten times higher LHC design luminosity and luminosity levelling the delivery of about  $3000 \text{ fb}^{-1}$  is envisaged within 10 years. The prospect to observe and measure rare processes is driving these developments. Severe radiation doses and high particle rates at the HL-LHC result in a challenging environment for the collider experiments. To cope with these circumstances, an upgrade or even replacement of several detector components of the experiments is essential. In this seminar an overview of the upgrade of the LHC and the phased upgrade of its experiments will be given. Emphasis will be put on the concepts and technology choices for the upgrade of the ATLAS and CMS experiments allowing to maintain similar detector performances as current detectors.

**Coffee, tea and cookies will be served at 16.45 h**

**This seminar is integrated in the 8<sup>th</sup> Annual Meeting of the Helmholtz-Alliance “Physics at the Terascale”: <http://terascale.de/alliance2014>**