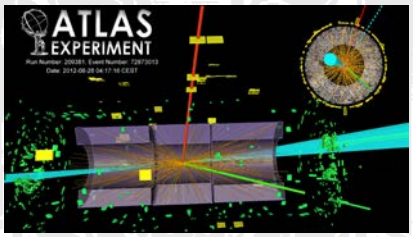
Physikalisches Kolloquium

Double Feature:

Master Thesis Laureate 2016 meets Mathematician

am 14. November 2016 um 17 Uhr c.t. (2 x 25 Minuten)

im Großen Hörsaal

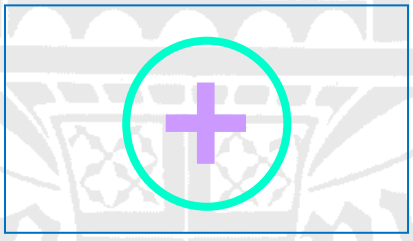


17: 15 – 17:45:

Alena Lösle
Physikalisches Institut, Universität Freiburg

Study of CP Properties of the Higgs Boson Producedin Gluon Fusion with the ATLAS Experiment at the LHC

The new particle is consistent with the Standard Model (SM) prediction. In particular, measuring the Higgs boson's behaviour under Charge conjugation and Parity transformation (CP transformation) allows to search for new sources of CP violation, which are needed to explain the observed matter-antimatter asymmetry in the universe. If CP violation is realized in the interaction of the Higgs boson with other SM particles this would directly lead to the need for new physics beyond the SM. In this talk, I will discuss the use of the Optimal Observable method for investigating the Higgs-boson coupling structure to gluons. This is done in the Higgs-boson production channel via gluon fusion in association with two jets. The subsequent decay of the Higgs boson into a pair of T-leptons in the di-leptonic final state is considered.



17: 45 – 18:15:

Prof. Dr. Stefan Kebekus
Mathematisches Institut, Universität Freiburg

Birational Geometry, a Panoramic View

Algebraic geometry is a branch of modern mathematics that relates concepts of abstract algebra to geometric intuition. Its main objects of study are algebraic varieties -- geometric spaces defined by algebraic equations. The talk aims to give a glimpse into some of the questions that algebraic geometers are considering today, and into some of the answers that have been found in the recent past.

Wine, Brezels and Beer will complete the Symposium