GRADUATE COLLOQUIUM

Wednesdays, 13-15 (FIM Tea to follow)
Hermann Weyl Zimmer (HG G43, ETH Zentrum)

Speaker: **Martin Lotz**
Title: **Lower Bounds in Complexity Theory**
Date: Wednesday, December 10

Abstract: Complexity theory studies the resources needed to solve problems algorithmically. Upper bounds on complexity are provided by the design and study of algorithms. Lower bounds are statements about all possible algorithms for a given problem, and are usually harder to find. In this talk, lower bounds are discussed in the context of Algebraic Complexity Theory, the complexity theory concerned with computation and decision problems related to polynomial equations. We will discuss how geometry, topology and combinatorics give information on the number of arithmetic operations needed to compute sets of polynomials, or to decide membership to (semi-, quasi-) algebraic sets.

`http://www.math.ethz.ch/graduate/colloquium`
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