

Alex Gorodnik

Title: Diophantine approximation and automorphic spectrum

Abstract: We discuss the problem of Diophantine approximation on algebraic varieties, which was considered by Waldschmidt in the setting of abelian varieties. We investigate this problem for varieties equipped with actions of semisimple groups. Using techniques from the theory of automorphic representations, we establish estimates on the exponents of Diophantine approximation that are optimal in a number of cases. It turns out that the quality of the exponents is very closely related to the Ramanujan conjecture and its generalisations.

Jean-Francois Lafont

Title: 4-dimensional locally CAT(0)-manifold with no Riemannian smoothing

Abstract: I will describe the construction of smooth 4-dimensional manifolds that support locally CAT(0) metrics, but which cannot support any Riemannian metrics of non-positive sectional curvature. This is joint work with Mike Davis and Tadeusz Januszkiewicz.