Speaker: Andrei Yafaev

Title: Some applications of o-minimality in Diophantine Geometry

Abstract: In this talk I will outline recent strategies to approach some open problems in Dophantine Geometry concerning *'unlikely intersections'* in certain types of algebraic varieties. The strategy, initiated by Pila and Zannier, makes essential use of the theory of o-minimality which combines ideas from real algebraic and analytic geometry and model theory.

After an overview of o-minimality, I will illustrate the strategy on one concrete example - the Manin-Mumford conjecture for the two dimensional torus.