

Algebra and Geometry Seminar

Speaker: Nima Hoda (Cornell University)

Title: Strong shortcut groups and asymptotic cones.

Abstract: The study of groups acting on spaces satisfying various nonpositive curvature conditions is an area of significant interest in geometric group theory. Diverse families of groups have been studied in this context, including CAT(0) groups, cubical groups, hierarchically hyperbolic groups, Helly groups, systolic groups, quadric groups, etc.

In this talk I will discuss the strong shortcut property, a weak nonpositive curvature condition of rough geodesic metric spaces that unifies all of these families of groups and which also includes the Heisenberg group. I will give an asymptotic cone characterization of the strong shortcut property and discuss some group theoretic consequences of nice actions on strong shortcut spaces.