Title: The Tits alternative in non-positive curvature

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Abstract:

The goal of the talk is to provide an overview of several (old and new) techniques used in geometric group theory, using the Tits alternative as the goal to tie the story together. A group satisfies the Tits alternative if any finitely generated subgroup of it is either virtually solvable or contains a free non Abelian subgroup. The Tits alternative is well-known in negative curvature, however it is a major open problem when considering non-positive curvature, such as for CAT(0) groups.