Finiteness theorems for arithmetic reflection groups
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The talk is based in part on a joint work with Ian Agol, Peter Storm and Kevin Whyte in which we show that there are only finitely many conjugacy classes of maximal arithmetic hyperbolic reflection groups. Our proof combines an extension of a classical geometric inequality due to Li and Yau with some recent results on growth of lattices in semisimple Lie groups. I will discuss the method and some of its further applications.