Discrete subgroups of Lie groups (M16)
Non-examinable (Graduate Level)

The course will provide an introduction to discrete subgroups of Lie groups and to the diverse techniques used to study them. These include hyperbolic geometry and symmetric spaces, unitary representations, algebraic number theory, ergodic theory and dynamics of homogeneous flows as well as random walks. Several of these aspects will be presented and one of the goal of the lectures will be the Mostow-Margulis rigidity theorems and the Margulis arithmeticity theorem for lattices in semisimple Lie groups.

Pre-requisites

This course assumes some familiarity with differential geometry, probability and ergodic theory.

Literature


Additional support

One or two Part III essays will be offered in connection to some of the topics of the course.