

COLLOQUIUM

3-Dimensional Affine Crystals

William Goldman
University of Maryland

February 28, 2014

Crystallographers in the 19th century developed the notion of a crystallographic group to express the geometric symmetries of crystals. The classical theorems of Bieberbach gives a qualitative classification of crystallographic groups in terms of finite groups of integer matrices. In modern terms, this led to to the classification of discrete groups of isometries of Euclidean space, or, equivalently, Riemannian manifolds of zero curvature. The more general theory in affine geometry is much richer and more interesting. In this talk I will describe the recent classification in dimension three, and the intricate relationships to hyperbolic non-Euclidean geometry as well as the geometry of special relativity.

The lecture will take place in Thackeray 704 at 3:30pm.
Refreshments will start at 3:00pm.