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ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

SEMINAR OF MATHEMATICS

Tuesday February 28th, 2017 at 11h15, CIB lecture hall BI AO 448

L. E. Dickson Instructor Dr. Aaron Brown *(University of Chicago)*

will present a seminar entitled:

**"Lattice actions on manifolds and recent progress
in the Zimmer program"**

Abstract:

The Zimmer Program is a collection of conjectures and questions regarding actions of lattices in higher-rank simple Lie groups on compact manifolds. For instance, it is conjectured that all non-trivial volume-preserving actions are built from algebraic examples using standard constructions. In particular, on manifolds whose dimension is below the dimension of all algebraic examples, Zimmer's conjecture asserts that every action is finite.

I will present some background and motivation and then explain two of my own results within the Zimmer program:

(1) a solution to Zimmer's conjecture for actions of cocompact lattices in SL(n,R), n>=3 (joint with D. Fisher and S. Hurtado);

(2) a classification (up to topological semiconjugacy) of lattice actions on tori whose induced action on homology satisfies certain criteria (joint with F. Rodriguez Hertz and Z. Wang).

Lausanne, February 23, 2017 / mg