1072-20-235 **Mladen Bestvina**, **Alex Eskin** and **Kevin Wortman*** (wortman@math.utah.edu). *Filling coarse manifolds in arithmetic groups.*

A theorem of Lubotzky-Mozes-Raghunathan states that the word metric of any irreducible lattice L in a higher rank semisimple group G is quasi-isometric to the metric on L obtained by restricting the metric on G. In other words, given any two points x and y in L, there is a quasi-path in L that joins x to y and whose length is roughly the length of the shortest path between x and y in G.

In this talk I'll explain a conjectural generalization of Lubotzky-Mozes-Raghunathan from Bux-Wortman on the existence of metrically efficient "coarse" n+1 manifolds in L whose boundaries realize given n manifolds in L as long as the rank of G is at least n+2. I'll explain recent progress toward proving this conjecture, and how the conjecture implies some known finiteness properties of latices and some mostly unknown isoperimetric inequalities for lattices. This is joint work with Mladen Bestvina and Alex Eskin. (Received June 28, 2011)