Department of Mathematics and Computer Science

October 3, 2008

Friday, October 3, 4:00

COLLOQUIUM
Speaker: Han Duong
Old Main 2231

Title: "Minimal volume k-point lattice d-simplices"

Abstract: Recently Bey, Henk and Wills proved that for a polytope $P \subset \mathbb{R}^d$ with k interior lattice points, the volume of P satisfies

$$\mathrm{Vol}(P) \geq \frac{1}{d!}(dk+1)$$

The main focus of this talk is to show via triangulations that for $d \geq 3$ there is exactly one class (under unimodular equivalence) of nondegenerate lattice simplices in $\mathbb{R}^d$ with $k \geq 1$ interior lattice points and volume $\frac{1}{d!}(dk+1)$. (Only basic knowledge in geometry and linear algebra will be assumed.)

SNACKS IN FACULTY LOUNGE AT 3:30 PM.
EVERYONE WELCOME (EVEN IF YOU ARE UNABLE TO ATTEND THE TALK)
