

Mathematics Student Colloquium

Prof. John Loftin

**Projective Invariants
of Convex Domains and
Monge-Ampère Equations**

Abstract: Under the Klein model of hyperbolic space, any hyperbolic isometry is given by the restriction to the disk in \mathbb{R}^n of a projective linear map of $\mathbb{RP}^n \supset \mathbb{R}^n$. This picture can be naturally generalized to other convex domains in \mathbb{R}^n on which large (co-compact) projective groups act.

In this talk, we will introduce some analytic techniques (a Monge-Ampère equation due to Calabi) for studying projective invariants of convex domains. The talk will be elementary, and we will develop the necessary geometry and analysis.

Wednesday, February 10

4-5pm

204 Smith Hall