

BI-CO MATHEMATICS COLLOQUIUM

Tom Crawford
Swarthmore College

“Cusps in Hyperbolic Spaces”

Monday, November 4, 2019

Talk at 4:00 – Hilles 109

Tea at 3:30 – Hilles 208, Math Lounge

Abstract:

Non-Euclidean spaces (manifolds) are much like our “normal” Euclidean space, except that they follow slightly different geometric rules. In Hyperbolic Geometry, “straight lines” curve away from each other, which allows for the presence of particularly thin regions of a manifold called cusps. Since many of these manifolds do not fit (cannot be embedded) in our 3-d Euclidean space, we will discuss ways of visualizing these exotic yet fundamental shapes. In particular we will see how by tracking the size and shape of a neighborhood of the cusp we can determine some of the properties of the manifold as a whole.

HAVERFORD COLLEGE