Department of Mathematics and Computer Science

Friday, February 3, 2017, 4:10 pm

COLLOQUIUM TALK
Speaker: Chris Leininger (UIUC)
Old Main 2231

Word-hyperbolic surface bundles

Abstract:

In the late 70's and early 80's, Thurston's approach to studying 3-manifolds revolutionized the theory, showing that hyperbolic geometry provided a framework to more systematically study these manifolds. Specifically, he conjectured (and proved in many cases) that 3-manifolds could be canonically decomposed into geometric pieces, with hyperbolic geometry being the richest and most interesting geometric structure arising. Based on earlier work by Dehn, the key features of hyperbolic geometry were abstracted by Gromov to study more general spaces (most famously, finitely generated groups), and he has asked whether the analogue of the "hyperbolic parts" of Thurston's geometrization hold in a more general setting. In this talk, I will describe a particular instance of Gromov's "hyperbolization question", motivated by Thurston's approach, and explain some partial results in this direction. This is joint work with Bestvina, Bromberg, and Kent.

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