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**Thin Triangles, Big Discs,  
and the Curve Complex:  
An Introduction to Hyperbolic Spaces**

**ABSTRACT**

A well-known fact in planar geometry is that the angles of a triangle sum to  $\pi$ . This statement doesn't hold in curved geometries, however, and in this talk I'll focus on spaces where the angle sum of a triangle is less than  $\pi$ . Such negatively curved spaces appear not only in mathematics, but in physics and computer graphics, as well. After introducing the upper half plane model of hyperbolic space, I'll use the "thin triangle" criterion for hyperbolicity to describe some interesting examples of negatively-curved spaces which arise in low-dimensional topology.

**TUESDAY, OCTOBER 4, 2011 • TEA AT 4:15, TALK AT 4:30 • SCIENCE CENTER 199**