## The Oliver Club

www.math.cornell.edu/~oliver/

## Ross Geoghegan, Binghamton University Seeing Geometry in Certain Kinds of Modules

I'll begin by explaining a very primitive notion of non-positive curved space called a CAT(0) space. It's so simple that it can be understood by anyone who knows what a metric space is and who likes geometry. My CAT(0) space M will come with a group G of isometries of M. This leads to the notion of the limit set of this action of G. Much more interesting, and the focus of my talk, is a set of special limit points called the "horospherical limit set." After a short discussion of what this means in general, I'll explain how it shows up in several parts real mathematics: Fuchsian and Kleinian groups, discrete subgroups of



Lie groups, and Groebner bases, as well as, more generally, the issue of trying to see geometry in the structure of ZG-modules. This is joint work with Robert Bieri.

## Thursday, March 31, 2011 at 4:25 PM in 406 Malott Hall

Refreshments will be served at 3:55 PM in the Mathematics Department lounge (532 Malott Hall).