



Center for Mathematical Sciences Lectures

Mallat Family Fund for Research in Mathematics

invites you to a

SPECIAL LECTURE SERIES

to be presented by

Professor Mladen Bestvina

Department of Mathematics

University of Utah

All lectures will take place at
Auditorium 232, Amado Mathematics Building

Lectures I and II:

Monday, 14 June and Tuesday, 15 June, 2010 at 15:30

The automorphism group of a free group

The group of (outer) automorphisms of a free group of finite rank has been studied extensively in the last 25 years. The guideline is the analogy with $SL_n(\mathbb{Z})$ and with mapping class groups. I will describe Outer space and some of the other basic tools in the subject as well as some of the main achievements of the theory.

Lecture III: Wednesday, 16 June, 2010 at 15:30

Piecewise linear Morse theory

I will describe a very useful technique to analyze the homotopy type of a simplicial complex, namely the PL version of the classical Morse theory. I will give examples of its use, e.g. to prove the Solomon-Tits theorem about the homotopy type of a spherical building, or the contractibility of the arc complex associated to a surface. If there is time, I will also describe from this point of view an old example of Stallings of a group which is finitely presented but has infinitely generated 3rd homology.