The SUMO Speaker Series for Undergraduates

(food from Pizza Chicago)
Wednesday, May 26
4:40-5:30, room 380C

Earthquakes on Surfaces

Jeff Danciger

Abstract: Given a topological surface S of genus g (i.e., g "holes"), there are many different ways to put a "geometric structure" (in the sense of metric and related notions) on S. Among such geometries, a large class is given by ones called *homogeneous*. How can we deform one geometry on S into another? A dramatic way of doing this is to apply an *earthquake*: tear the surface apart along some fault lines, then shear opposite sides of the fault lines in one direction, and then glue the surface back together. We will first discuss earthquakes on flat tori, and then move on to the more interesting case of hyperbolic geometries. Even if time permits, we won't discuss applications to geology.

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