Curvature, Topology, and Pinched Spheres

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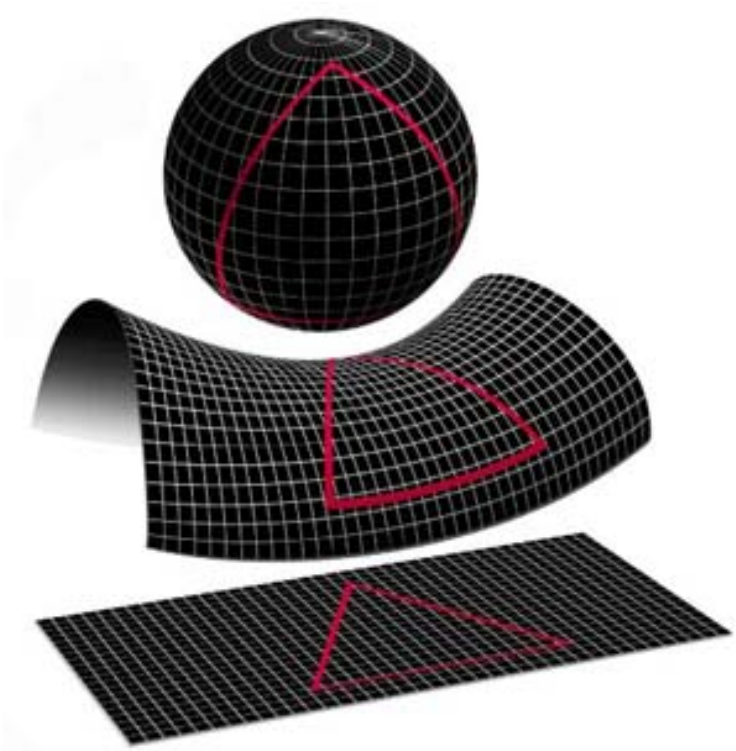
Undergraduate Math Club
CORNELL UNIVERSITY



The model spaces.

SPEAKER
Max Hallgren

ABSTRACT

A classical result in the differential geometry of surfaces is the the Gauss-Bonnet Theorem, which gives a precise relationship between the curvature of a surface endowed with a Riemannian metric and its underlying topology. This lecture will explore further results relating sectional and Ricci curvature to the topology and smooth structure of a Riemannian manifold. We will focus on recent results and methods, including the proof of the Differentiable Sphere Theorem using Ricci flow. The lecture will begin with an overview of some definitions essential to the study of Riemannian manifolds, with only a basic knowledge of topology and calculus assumed.

FEB 22 · 4:30

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Malott 5th floor lounge · refreshments served