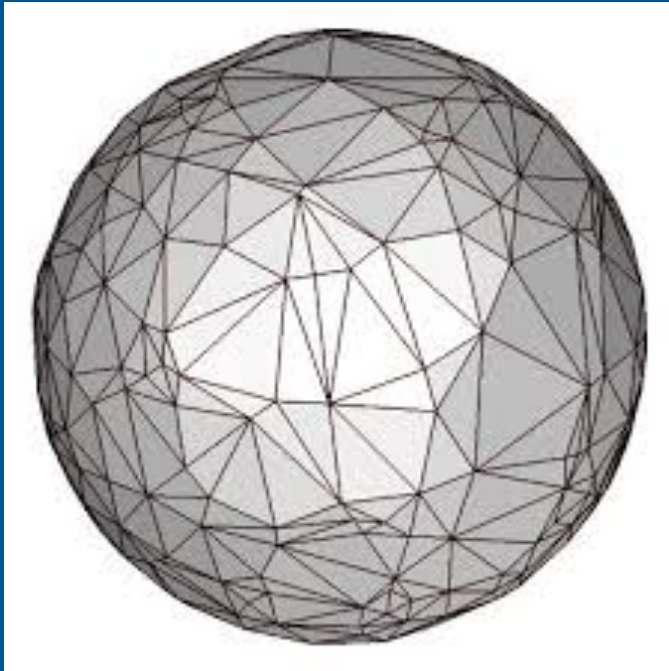


UCCS Department of Mathematics
Math Colloquium Series

PAUL HORN
UNIVERSITY OF DENVER



DATE:

APRIL 14, 2016

TIME:

12:30PM-1:30PM

(REFRESHMENTS AT 12:15PM)

LOCATION:

OSBORNE CENTER
ROOM# A327

The Geometry of Graphs

Abstract: Graphs are a mathematical abstraction of networks, which on their most basic level capture objects and their relationships. Although graphs are discrete objects, there turns out to be many striking analogies between them and Riemannian manifolds. Most famous of these are the relationships between the spectra of the Laplace operator on graphs and the spectra of the Laplace-Beltrami operator on a manifold. Recent work, however, has attempted to bring other ideas from the world of geometry into the graph setting - notably by trying to introduce notions of curvature on graphs. In this talk, I will describe some of my work in this area and how it reflects a rich interplay between the local structure of a graph, the behavior of random walks on graphs, and more global geometric properties of a graph.