Department of Mathematics
University of Notre Dame

GEOMETRIC ANALYSIS SEMINAR

Speaker: Samuel Perez-Ayala
University of Notre Dame

Date: Thursday, February 16, 2017
Time: 11:00 AM
Location: 258 Hurley Hall

Lecture Title:
The Uniformization Theorem

Abstract

Given a compact, closed (no boundary), 2-dimensional Riemannian Manifold (M, g_0), with Gaussian curvature $\mathcal{K}_0$, I will address the following question: Can we find a conformal metric $\bar{g}$ having constant curvature? By considering the determinant of the laplacian as a function of the metric $\bar{g}$, $\log \det \Delta_{\bar{g}}$, it is a fact that the maximum of this function is attained by a unique (up to conformal transformations) metric $\bar{g}'$, and that $\bar{g}'$ has constant Gaussian curvature.