Department of Mathematics
University of Notre Dame

FELIX KLEIN SEMINAR

Speaker: Jackson McFeeley Goodman
University of Pennsylvania

Date: Thursday, November 21, 2019
Time: 2:00 PM
Location: 258 Hurley Hall

Lecture Title:
Moduli Spaces of Ricci Positive Metrics in Dimension Five

Abstract

We use the eta invariant of Spin-c Dirac operators to distinguish connected components of moduli spaces of Riemannian metrics with positive Ricci curvature. We then find infinitely many non-diffeomorphic five manifolds $(\#^k S^2 \times S^3)/\mathbb{Z}_2$ for which these moduli spaces each have infinitely many components. The manifolds are total spaces of principal S^1- bundles and the metrics are lifted from Ricci positive metrics on the bases using a method of Gilkey, Park, and Tuschmann. We compute the eta invariants by extending metrics and auxiliary connections over the associated disc bundles, generalizing a technique of Kreck and Stolz.

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