Temple University Mathematics Colloquium

Pierre Albin

University of Illinois at Urbana-Champaign

will speak on

Extending the Cheeger-Müller theorem through degeneration

ABSTRACT: Reidemeister torsion was the first topological invariant that could distinguish between spaces which are homotopy equivalent but not homeomorphic. The Cheeger-Müller theorem established that the Reidemeister torsion of a closed manifold can be computed analytically. I will report on joint work with Frédéric Rochon and David Sher on finding a topological expression for the analytic torsion of a manifold with fibered cusp ends. Examples of these manifolds include most locally symmetric spaces of rank one. We establish our theorem by controlling the behavior of analytic torsion as a space degenerates to form hyperbolic cusp ends.

Monday, August 31, 2015
Lecture at 4:00 pm
Coffee, tea, and refreshments from 3:40 pm
Room 617, Wachman Hall
Department of Mathematics