

GEOMETRIC ANALYSIS SEMINAR

Speaker: Mitchell Faulk
Columbia University

Date: Thursday, November 15, 2018

Time: 11:00 AM

Location: 258 Hurley Hall



Lecture Title:

Asymptotically conical Calabi-Yau manifolds

Abstract

Yau's solution to Calabi's conjecture involves solving a complex Monge Ampere equation for a scalar-valued function on the manifold. A paper by Conlon and Hein states that in the case that the manifold is asymptotically conical, there still exist solutions to this equation, but the existence (and uniqueness) depends on the decay rate of the prescribed Ricci form appearing in the equation. In this talk, we discuss these existence results and focus on a small improvement with respect to the decay rate of solutions in the case that the Fredholm index of the Laplacian is the first negative value.