

GRADUATE STUDENT GEOMETRY SEMINAR

Guest Speaker: Ethan Addison

University of Notre Dame

Date: Friday, October 16, 2020

Time: 3:00 PM

Location: Zoom

Zoom URL: [notredame.zoom.us/j/96302373523?
pwd=SWZMOTFuRct2UElrdGk0bStjc0M2Zz09](https://notredame.zoom.us/j/96302373523?pwd=SWZMOTFuRct2UElrdGk0bStjc0M2Zz09)



Lecture Title:

Generalized Poincaré-Type Kähler Metrics

Abstract

Given a compact Kähler manifold (M^n, ω) with a smooth divisor X , we can define a complete Kähler metric ϖ on the complement $M \setminus X$ modeled after the punctured disk cusp metric. These metric of Poincaré type have many nice properties, largely laid out by H. Auvray over the last decade. One of these properties, however, make their study in the Calabi Extremal Metric Program somewhat limited: extremal (resp. cscK) PT metrics on $M \setminus X$ induce extremal (resp. cscK) PT metrics on X . This was made fairly explicit by L. M. Sektnan in regards to blowing up extremal PT metrics, evincing the need for a slightly broader definition in order to get broader results. In this talk, we will introduce a generalization of PT metrics which take into account the automorphisms on X to produce a gnarling effect on the metric, discussing some of their properties as well as recent progress towards proving a LeBrun-Simanca style openness result for these metrics.