

GEOMETRIC ANALYSIS SEMINAR

Speaker: Andrea Mondino

Oxford University

Date: Thursday, October 29, 2020

Time: 11:00 AM

Location: Zoom

Zoom URL: notredame.zoom.us/j/96288130964?pwd=c2dDelJJTXhSdTBVSEtLYlI1NEdzZz09



Lecture Title:

Optimal transport and quantitative geometric inequalities

Abstract

The goal of the talk is to discuss a quantitative version of the Levy- Gromov isoperimetric inequality (joint with Cavalletti and Maggi) as well as a quantitative form of Obata's rigidity theorem (joint with Cavalletti and Semola). Given a closed Riemannian manifold with strictly positive Ricci tensor, one estimates the measure of the symmetric difference of a set with a metric ball with the deficit in the Levy- Gromov inequality. The results are obtained via a quantitative analysis based on the localisation method via L1-optimal transport. For simplicity of presentation, the talk will present the results in case of smooth Riemannian manifolds with Ricci Curvature bounded below; moreover it will not require previous knowledge of optimal transport theory.