Seeing inside the earth with Riemannian and Finsler geometry

Monday, September 24, 2018
2:00PM–3:00PM
Room 646 PGH

Abstract: Earthquakes produce seismic waves. They provide a way to obtain information about the deep structures of our planet. The typical measurement is to record the travel time difference of the seismic waves produced by an earthquake. If the network of seismometers is dense enough and they measure a large number of earthquakes, we can hope to recover the wave speed of the seismic wave from the travel time differences.

In this talk we will consider geometric inverse problems related to different data sets produced by seismic waves. We will state uniqueness results for these problems and consider the mathematical tools needed for the proofs. The talk is based on joint works with: Maarten de Hoop, Joonas Ilmavirta, Matti Lassas and Hanming Zhou.