

Colloquium speaker: Dr. Erin Pearse (Cal Poly San Luis Obispo)

Title: Optimal transport, coarse curvature, and some applications

Abstract: I will discuss the optimal transport problem, its origins, and some different formulations. Optimal transport makes it possible to develop a synthetic notion of Ricci curvature and I will compare two recent approaches to this problem, and discuss how they provide a notion of curvature which is valid for metric measure spaces which may carry no differentiable structure; this includes graphs and Markov chains. We will discuss some applications of optimal transport (and coarse Ricci curvature) to problems in computer science and machine learning.