Geometry of transportation cost (a.k.a. Earth Mover or Wasserstein distance)

Abstract:

We consider (finitely supported) transportation problems on a metric space $M$. They form a vector space $TP(M)$. The optimal transportation cost for such transportation problems is a norm on this space. This normed space is of interest for the theory of metric embeddings because the space $M$ embeds into it isometrically. I am going to talk about geometry of such normed spaces. The most important questions for this talk are relations of these spaces with $L_1$ and $L_{\infty}$ spaces.