

Title: Multivariate almost stochastic dominance and optimal transport

Abstract: We study concepts of almost stochastic dominance as order relations that weaken first order stochastic dominance and that have the advantage of having some robustness properties, e.g. with respect to Wasserstein distance. We first consider the univariate case where such results are relatively easy to derive from characterizations in terms of quantile functions. The more interesting case is the multivariate case, where variants of multivariate almost stochastic dominance (MASD) have recently been introduced by Müller et al. (2025). We show how one can derive a general class of almost stochastic dominance rules from the solutions of optimal transport problems and how these are related to the recently introduced variants of MASD. This demonstrates that these can also be considered as robustifications of first order stochastic dominance. This talk is based on joint work with Johannes Wiesel.