



## Seminar/Talk

# A Synthetic Approach to Global Regularity Estimates for Optimal Transport via Entropic Regularization

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CEREMADE

Host: Jan Maas

Caffarelli's contraction theorem guarantees the Lipschitz continuity of the optimal transport map between a Gaussian and a measure with strongly concave log-density. In 2022, Chewi and Pooladian provided a proof of this theorem using the entropic version of optimal transport. Here, we propose an extension of both results based on the Prekopa-Leindler inequality. Leveraging the Prekopa-Leindler inequality allows us to relax the regularity assumptions on the log-densities and to introduce anisotropy. From this, we derive regularity and growth results for optimal transport when the target measure is log-concave. Finally, by introducing a quantitative Prekopa-Leindler inequality, we refine the recent result of Shenfeld and De Philippis concerning the trace of the derivative of the optimal transport map when the source measure is log-subharmonic.

**Tuesday, May 6, 2025 04:15pm - 05:15pm**

Office Bldg West / Ground floor / Heinzl Seminar Room (I21.EG.101)



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