

## ICTS-OT-ML-PDE Seminar

**Title** : **Doubly Regularized Entropic Wasserstein Barycenters**

**Speaker** : L ena c Chizat ( cole Polytechnique F d rale de Lausanne)

**Date** : Tuesday, 31<sup>st</sup> October 2023

**Time** : 02:00 PM (IST)

**Abstract** : Wasserstein barycenters are natural objects to summarize a family of probability distributions, but they suffer from the curse of dimensionality, both statistically and computationally. In this talk, I will propose a new look at the entropic regularization of Wasserstein barycenters. I will show that, via a "double entropic regularization" of the problem, one obtains a notion of barycenter with none of these drawbacks. In addition, and perhaps counter-intuitively, with well-chosen regularization strengths, this double regularization approximates the true Wasserstein barycenter better than with a single regularization.

In this talk, the problem of barycenter serves as a common thread to expose recent results in the theory of entropic optimal transport from a statistical, approximation and computational viewpoint, which are valid more generally.

References:

<https://arxiv.org/abs/2303.11844>

<https://arxiv.org/abs/2307.13370>

**Venue** : Please click on the below link to join the meeting

<https://us02web.zoom.us/j/81379290349>