

Non-Linear and High Dimensional Inference

Geometry and Statistics in Data Sciences

3-7 October 2022 - Institut Henri Poincaré, Paris

Schedule

	Monday October 3rd	Tuesday October 4th	Wednesday October 5th	Thursday October 6th	Friday October 7th
9h-9h30		Clément Berenfeld	Claudia Strauch	Denis Belometsny	Johannes Schmidt-Hieber
9h30-10h		Understanding the geometry of high-dimensional data through the reach	On high-dimensional Lévy-driven Ornstein–Uhlenbeck processes	Dimensionality reduction in reinforcement learning by randomisation	A statistical analysis of an image classification problem
10h-10h30		Wolfgang Polonik	Botond Szabo	Gilles Blanchard	Damien Garreau
10h30-11h		Topologically penalized regression on manifolds	Linear methods for nonlinear inverse problems	Stein effect for estimating many vector means: a "blessing of dimensionality" phenomenon	What does LIME really see in images?
11h-11h30		Coffee	Coffee	Coffee	Coffee
11h30-12h		John Harlim	Judith Rousseau	Nicolas Verzelen	Vasiliki Velona
12h-12h30		Leveraging the RBF operator estimation for manifold learning	Bayesian nonparametric estimation of a density living near an unknown manifold	Optimal Permutation Estimation in Crowd-Sourcing problems	Learning a partial correlation graph using only a few covariance queries
12h30-14h00	Welcome & Foreword Introduction at 13h45	Break		Break	
14h-14h30	Sophie Langer				
14h30-15h	Overcoming the curse of dimensionality with deep neural networks	Marina Meila		Claire Lacour	
15h-15h30	Adeline Fermanian	Manifold Learning, Explanations and Eigenflows		On the use of overfitting for estimator selection	
15h30-16h	Scaling ResNets in the Large-depth Regime	Franck Picard		Peter Bartlett	
16h-16h30	Coffee	A probabilistic Graph Coupling View of Dimension Reduction		The Dynamics of Sharpness-Aware Minimization.	
16h30-17h	Mikhail Belkin	Coffee		Coffee	
17h-17h30	Neural networks, wide and deep, singular kernels and Bayes optimality	Alexander Cloninger			
17h30-18h		Learning on and near Low-Dimensional Subsets of the Wasserstein Manifold			
18h-20h30		Cocktail			

Wednesday afternoon

Wednesday afternoon is free! Feel free to stay at IHP to chat or to explore Paris.

Nearby Institut Henri Poincaré

- Pantheon
- River Seine quays
- Luxembourg gardens

Paris classics

- Eiffel tower
- Louvre museum
- Orsay museum
- Centre Pompidou (museum of modern art)
- Sacré-Cœur Basilica of Montmartre
- Père Lachaise cemetery

Lunches

Institut Henri Poincaré's neighborhood has plenty of diverse food places.

The two-hour lunch breaks give you enough time to eat in a restaurant, provided you do not all pack in a single one. (please don't do this 🐱)



Fig. 1: Sit in: restaurants and cafés



Fig. 2: Take-away: fast-food and bakeries (sandwiches)