



Du
03
OCT.
2022
au
07
OCT.
2022

08h00
-
18h00

2022-T3 GEOMETRY & STATISTICS IN DATA SCIENCES

Non-Linear and High Dimensional Inference

Institut Henri Poincaré
Amphithéâtre Hermite
11 rue Pierre et Marie Curie 75005 Paris

INSCRIPTION

Non-Linear and High Dimensional Inference

3-7 October 2022 - IHP, Paris

In statistical learning and modern statistics, it is usually assumed that although data is observed in very high dimension, it actually live on — or near — a geometric structure of low dimension. The knowledge of such a low-complexity structure is of fundamental importance to improve both theoretical and computational aspects of a learning procedures.

Program

URL de la page : https://www.ihp.fr/fr/agenda/non-linear-and-high-dimensional-inference&is_pdf=true

- **Abstracts**
- **General Info handout**

Invited Speakers

- Peter Bartlett (UC Berkeley)
 - The Dynamics of Sharpness-Aware Minimization ([video](#) , [slides](#))
- Mikhail Belkin (UC San Diego)
 - Neural networks, wide and deep, singular kernels and Bayes optimality ([video](#) , [slides](#))
- Denis Belometsny (Duisburg-Essen)
 - Dimensionality reduction in reinforcement learning by randomisation ([video](#))
- Clément Bérenfeld (CEREMADE, Dauphine)
 - Understanding the geometry of high-dimensional data through the reach ([video](#) , [slides](#))
- Gilles Blanchard (LMO, Orsay)
 - Stein effect for estimating many vector means: a "blessing of dimensionality" phenomenon ([video](#) , [slides](#))
- Alexander Cloninger (UC San Diego)
 - Learning on and near Low-Dimensional Subsets of the Wasserstein Manifold([video](#) , [slides](#))
- Adeline Fermanian (Mines ParisTech)
 - Scaling ResNets in the Large-depth Regime([video](#) , [slides](#))
- Damien Garreau (U Côte d'Azur)
 - What does LIME really see in images? ([video](#) , [slides](#))
- John Harlim (Penn State)
 - Leveraging the RBF operator estimation for manifold learning([video](#) , [slides](#))
- Claire Lacour (Paris-Est, Marne-la-Vallée)
 - On the use of overfitting for estimator selection ([video](#) , [slides](#))
- Sophie Langer (TU Darmstadt)
 - Overcoming the curse of dimensionality with deep neural networks ([video](#) , [slides](#))
- Marina Meila (University of Washington)
 - Manifold Learning, Explanations and Eigenflows ([part 1](#) , [part 2](#) , [slides](#))
- Franck Picard (ENS Lyon)
 - A probabilistic Graph Coupling View of Dimension Reduction ([video](#) , [slides](#))
- Wolfgang Polonik (UC Davis)
 - Topologically penalized regression on manifolds ([video](#))
- Judith Rousseau (Oxford)
 - Bayesian nonparametric estimation of a density living near an unknown manifold ([video](#))
- Johannes Schmidt-Hieber (Twente)
 - A statistical analysis of an image classification problem ([video](#) , [slides](#))
- Claudia Strauch (Aarhus)
 - On high-dimensional Lévy-driven Ornstein–Uhlenbeck processes ([slides](#))
- Botond Szabó (Bocconi)
 - Linear methods for nonlinear inverse problems ([video](#) , [slides](#))
- Vasiliki Velona (Hebrew University of Jerusalem)
 - Learning a partial correlation graph using only a few covariance queries ([video](#) , [slides](#))
- Nicolas Verzelen (Inrae Montpellier)
 - Optimal Permutation Estimation in Crowd-Sourcing problems ([video](#) , [slides](#))

Free Afternoon & Lunch ([Info handout](#))

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- 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, or to grab something to take away.
- Wednesday afternoon is free! Feel free to stay at IHP to chat or to explore Paris.



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HORAIRES

L'institut :

- lundi au vendredi de 8h30 à 18h,
- fermé les jours fériés.

Le musée - Maison Poincaré :

- lundi, mardi, jeudi et vendredi de 9h30 à 17h30,
- samedi de 10h à 18h,
- fermé le mercredi et le dimanche.