



Institut
Henri
Poincaré

International Conference on Bayesian and Maximum Entropy methods in Science and Engineering

41st MaxEnt2022 Conference

JULY 18-22, IHP, PARIS

MaxEnt2022 will be an hybrid event allowing the largest number of people to participate!

TUTORIALS

- **Ariel Caticha** (*University at Albany, USA*)
Entropic Dynamics and Quantum Measurement
- **John Skilling** (*University of Cambridge, UK*) and
Kevin H. Knuth (*University at Albany, USA*)
Why Mathematics Works and Why Physics is Mathematical
- **Frank Nielsen** (*Sony CSL, Japan*)
Introduction to Information Geometry
- **Frédéric Barbaresco** (*THALES, France*)
Symplectic Theory of Heat and Information based on Souriau Lie Groups
Thermodynamics, Coquinot Thermodynamic Dissipative Bracket and
Sabourin Transverse Poisson Structures: Applications to Lindblad Equation
- **Ali Mohamed-Djafari** (*CNRS, France*)
Bayesian and Machine Learning Methods for Inverse Problem

MAIN TOPICS

- > Foundations of probability, inference, information, entropy
- > Bayesian Physics-Informed & Thermodynamics-Informed
Machine Learning
- > Information theory, machine learning tools for inverse problems
- > Bayesian and Maximum Entropy in real world applications
- > Geometric Statistical Mechanics/Physics, Lie Groups
Thermodynamics & Maximum Entropy Densities
- > Quantum: Theory, Computation, Tomography and Applications

INVITED TALKS

- **Anna Simoni** (*ENSAE, France*)
Bayesian Exponentially Tilted Empirical Likelihood to Endogeneity Testing
- **Antoine Bourget** (*CEA and ENS Paris, France*)
The Geometry of Quivers
- **Bobak Toussi Kiani** (*MIT, USA*)
Quantum algorithms for group convolution, cross-correlation,
and equivariant transformations
- **Emtiyaz Khan** (*RIKEN, Japan*)
The Bayesian Learning Rule
- **Fabrizia Guglielmetti** (*ALMA Regional Center Scientist
at European Southern Observatory, Germany*)
Bayesian and Machine Learning methods in the Big Data era
for astronomical imaging
- **Livia Partay** (*University of Warwick, UK*)
Nested sampling for materials
- **Lorenzo Valzania** (*LKB: Sorbonne University - ENS -
Collège de France, France*)
Imaging behind scattering layers
- **Pierre-Henri Wuillemin** (*Laboratoire d'Informatique
de Paris, France*)
Learning Continuous High-Dimensional Models using Mutual
Information and Copula Bayesian Networks
- **Torsten Ensslin** (*MPA, Germany*)
Theoretical Modeling of Communication Dynamics
- **Will Handley** (*University of Cambridge, UK*)
Bayesian sparse reconstruction: a brute-force approach to
astronomical imaging and machine learning
- **Piotr Graczyk** (*Angers, France*)
Graphical model selection in statistics and representation theory
- **Olivier Rioul** (*Telecom ParisTech, France*)
What is Randomness? The Interplay between Alpha Entropies, Total
Variation and Guessing
- **Laurent Mazliak** (*Sorbonne Université, LPSM, France*)
Borel and the emergence of probability on the mathematical
scene in France



PROGRAM & REGISTRATION
www.maxent22.see.asso.fr



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