**Avviso di seminario**

Martedì 8 aprile 2025, ore 14:00

Aula di Montecuccolino

**Jean-Paul Chemla**, Polytechnic Tours

"***Baysian optimization***"

Bayesian optimization is a global optimization technique designed for black-box functions that are expensive to evaluate. Unlike grid search or random search, it builds a probabilistic surrogate model—typically based on Gaussian processes—to estimate the function’s behavior and determine the most promising points to evaluate next. This allows for an efficient balance between exploration and exploitation.

In this seminar, I will introduce the core principles of Bayesian optimization and demonstrate its application in tuning heuristic parameters for a two-machine flow shop scheduling problem. Since evaluating the performance of a scheduling heuristic can be computationally expensive, Bayesian optimization helps find near-optimal parameter settings with fewer evaluations. This approach is particularly useful in operational research and industrial applications where simulation or real-world testing is time-consuming.

Jean-Paul Chemla is Associate Professor of Automation at Polytech Tours, the graduate school of engineering of the University of Tours, France. He teaches in fields such as PLC programming, supervisory control and data acquisition (SCADA), and the Internet of Things. He is a member of the LIFAT (Laboratoire d’Informatique Fondamentale et Appliquée de Tours), within an operational research team. His recent work focuses on using Bayesian optimization to optimize parameters in heuristics for flow shop scheduling.