

Speaker: Enrico Facca

Title: *The optimal transport problem: new tools and new challenges*

Abstract:

The objective of this seminar is to offer a wide-ranging and thorough insight into the optimal transport problem, which focuses on determining the most effective method to transfer mass from one distribution to another.

Recently, this problem's investigation has led to the development of several new mathematical tools, which are gradually being adopted by applied science professionals. The Wasserstein distance is noteworthy among these tools for its distinctive ability to measure the difference between two probability distributions, accounting for both magnitude and position. We will demonstrate how these properties can be especially beneficial in addressing inverse problems.

We will review the current numerical methods employed in addressing the optimal transport problem, and explore the challenges and unresolved questions in this research field.