

## **Stepping into my research: network models, disclosure risk assessment and a bit of fairness**

**Francesca Panero**

In this talk, I will give an overview of the research I carried out in the last years.

In the first part, I will discuss some Bayesian nonparametric models to describe complex networks, with a particular focus on large and sparse networks. I will give an idea of the asymptotic results that we proved in the so-called graphex framework, and I will introduce a latent space model inside the same framework, showing its fit on real spatial networks.

In the second part of the talk, I will introduce some works that use statistical methods to achieve a clear societal impact. These include my contributions in disclosure risk assessment, using both frequentist and Bayesian nonparametric statistics, and some work in fair Machine Learning.

To conclude, I will outline my research plans for the next few years and the possible future collaborations with the department.