

## PhD grant in economics

### The econometrics of many-to-one matching

**Supervisors:** Xavier D'Haultfoeuille, Francis Kramarz, Anna Simoni

**Topic:** many-to-one matching applies to several contexts such as the matching between firms and employees, schools and students, patients and hospitals etc. Understanding how these matchings take place is crucial to develop better assignment tools such as *Parcoursup*, but also to improve public policies aiming at, e.g., enhancing mobility and reducing inequality in the labor market. A key question for that is to identify, using the observed assignment, the preferences of individuals and firms (or schools, hospitals). This task is complicated by (i) the fact that revealed preferences may not apply in this context (ii) the existence of transferable utilities between workers and firms through wages (iii) network externalities: individual preference vary according to who else is assigned to their school/firm. The aim of this PhD thesis will be to develop identification and estimation/inference methods to estimate preferences in this context. Once preferences are estimated, welfare analysis or the computation of counterfactuals (among others) become possible. The PhD thesis will also contain an important empirical part: the new econometric tools will be applied to data sources, from France and from Sweden.

#### Short bibliography:

M. Baccara, A. Imrohoroglu, A.J. Wilson, L. Yariv (2012), "A Field Study on Matching with Network Externalities", *American Economic Review*, 102(5), 1773-1804.

P-A. Chiappori, B. Salanié (2016), "The Econometrics of Matching Models", *Journal of Economic Literature*, 54(3), 832-861.

J.T. Fox (2010), "Identification in Matching Games", *Quantitative Economics*, 1(2), 203–254.

M. Pycia (2012), "Stability and Preference Alignment in Matching and Coalition Formation", *Econometrica*, 80(1), 323-362.

**Requirements:** a strong taste and very good skills in microeconomic theory and econometrics.

**Selection process:** Applicants should contact us first ([xavier.dhaultfoeuille@ensae.fr](mailto:xavier.dhaultfoeuille@ensae.fr), [francis.kramarz@ensae.fr](mailto:francis.kramarz@ensae.fr), [anna.simoni@ensae.fr](mailto:anna.simoni@ensae.fr)). Then, they will have to send applications to Fanda Traoré ([Fanda.traore@ensae.fr](mailto:Fanda.traore@ensae.fr)) and present their application during the CREST PhD grant interviews.