# Raphaël Berthier

Curriculum Vitae

### Research

- Since 2018 PhD in the SIERRA team (Paris; INRIA, DI ENS, CNRS) under the supervision of Francis Bach and Pierre Gaillard.
- Spring 2017 Internship in Stanford University, under the supervition of Andrea Montanari, *4 months*.

Subject: Compressed Sensing and Approximate Message Passing algorithms.

#### Studies

- 2014-2018 Studies at the Ecole Normale Supérieure Ulm (Paris).
- 2016-2017 Master 2 in probabilities and statistics, University Paris-Sud (Orsay).
- 2015-2016 Master 1 in fundamental mathematics, ENS Ulm.
- Summer 2015 Internship at Qucit (start-up in Bordeaux, France), 2 months.

  Subject: statistical inference of urban movements, in particular using databases of bicyclesharing systems.
  - 2014-2015 Bachelor of Science in mathematics and in computer science, "Licence" in french, ENS Ulm.
  - July 2014 **Admitted to the Ecole Normale Supérieure (Paris)**, competitive exam, section mathematics physics computer science.
  - 2012-2014 **Preparation for the competitive exam of the ENS**, *Mathematics and physics section*, Preparation school of the Lycée Marcelin Berthelot, Saint-Maur-des-Fossés.
    - 2012 Baccalauréat (french high-school degree), Scientific and international english sections.

#### **Publications**

- 2019 **R. Berthier, F. Bach et P. Gaillard**, Accelerated Gossip in Networks of Given Dimension using Jacobi Polynomial Iterations, accepted for publication in SIAM Journal on Mathematics of Data Science.
- 2017 **R. Berthier, A. Montanari et P.-M. Nguyen**, *State Evolution for Approximate Message Passing with Non-Separable Functions*, Information and Inference: a Journal of the IMA.

#### Research talks

- Nov. 2019 MIC group meeting, New York University.
- Nov. 2017 Golosino seminar, École Normale Supérieure, Paris.

Nov. 2017 **SMILE seminar**, *Institut Henri Poincaré*, *Paris*. Oct. 2017 **Seminar of the SIERRA team**, *INRIA Paris*.

## Teaching

2019-2020 Lecturer in linear algebra.

Pluridisciplinary Cycle in Economics and Social sciences, PSL Research University, Paris

2019-2020 Teaching assistant in statistical learning.

Ecole Normale Supérieure, Paris

2014-2017 Oral examinations in mathematics in "classe préparatoire" (equivalent to first and second year university students in mathematics).

at the school Louis-le-Grand, in Paris, at the school Marcelin Berthelot, in Saint-Maur-des-Fossés, France.