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## Personal information

Name [Barbier Jean](#)  [0000-0002-2652-6727](#)  
Birth 23 June 1989, French national  
Mail [jbarbier@ictp.it](mailto:jbarbier@ictp.it)  
Main positions Research Scientist (Tenured Associate Professor) at [ICTP](#) and Adjunct Professor at [SISSA](#)

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## Education

2012–2015 [Physics Laboratory of ENS](#), Paris FR  
PhD in Theoretical Physics and Signal Processing, supervised by [Pr. F. Krzakala](#)  
Obtained with “Congratulations of the Jury” (top 10%)  
2010–2012 University Paris-Sud, Politecnico di Torino, SISSA and ICTP, IT and FR  
[International MSc in Physics of Complex Systems](#) (double degree)  
Obtained with the highest honours

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## Current and previous positions

2022–present [International Center for Theoretical Physics](#) (ICTP), Trieste IT  
Research Scientist (Tenured Associate Professor)  
2020–present [International School for Advanced Studies](#) (SISSA), Trieste IT  
Adjunct Professor in the Department of Data Science  
fall 2021 [Simons Institute for the Theory of Computing](#), Berkeley US  
Invited long-term Scientist, program in [Computational complexity of statistical inference](#)  
(declined due to COVID)  
2019–2022 [International Center for Theoretical Physics](#) (ICTP), Trieste IT  
Associate Research Officer (Tenure Track Assistant Professor)  
2018–2019 [Physics Laboratory of ENS](#), Paris FR  
[Laplace Junior Professor in Data Science](#)  
2017–2018 [Probability Group](#), Queen Mary University, London UK  
Permanent Lecturer in Statistical Machine Learning  
2015–2018 [Communication Theory Laboratory](#), Federal Institute of Technology (EPFL), Lausanne CH  
Postdoc in the group of [Dr. Nicolas Macris](#)

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## Scientific activity

High-dimensional statistics, probability, random matrix theory • Bayesian inference • information theory • mathematical and statistical physics (spin glasses) • statistical machine learning • probabilistic graphical models, message-passing • signal processing

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## Fellowships and grants

2022–2027 1.3 million euros ERC Starting Grant from the [European Research Council](#) obtained in PE1–Mathematics for the project CHORAL: Computational Hardness Of RepresentAtion Learning  
fall 2021 Long-term visit fellowship from the [Simons Institute for the Theory of Computing](#), Berkeley (declined due to COVID)  
2015 Awarded the chair of [Laplace Junior Professor in Data Science](#), ENS Paris. Funding from “ENS-CFM Research Chair on Models and Science of Data” from Capital Fund Management  
2012 [VINCI PhD fellowship](#) from the University Franco-Italienne (one/year in France): declined  
[Selective PhD fellowship](#) from the French Army Ministry (DGA): accepted

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## Supervision

- 2019–present ICTP and SISSA, Trieste IT  
4 MSc students, 1 PhD student (T. Hou) and 1 Postdoc (M. Sáenz)
- 2015–2018 EPFL, Lausanne CH  
2 MSc students (1 leading to [publication](#) with E. Biyik).  
Co-supervision with Dr. N. Macris of 3 PhD students (M. Dia, C-L. Chan and C. Luneau)

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## Teaching activities

- 2020–present SISSA PhD programs in Mathematics, Physics and Data Science, Trieste IT  
Mean-field theory of high-dimensional Bayesian inference (35 hours)
- 2020 [International MSc in Mathematics](#), Lahore PAK  
Machine learning (20 hours, online)
- 2019–present ICTP, Trieste IT  
Statistical mechanics with python (30 hours) and Machine learning (30 hours)
- 2012–2013 Universities Paris 5 and 7, FR  
Probability (30 hours) and Classical mechanics (30 hours)

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## Organisational and editorial activity

- 2023 Technical Program Committee for the [IEEE Information Theory Workshop \(ITW\)](#)
- 2022–present Action Editor for the [Transactions on Machine Learning Research \(TMLR\)](#)
- 2022 Main organizer of [Random matrices, random graphs and statistical physics for machine learning and inference](#), ICTP Trieste, Italy
- 2021–present Area Chair for the [Neural Information Processing Systems conference \(NeurIPS\)](#)
- 2020–present Main organizer of [Youth in high-dimensions: recent progress in machine learning, high-dimensional statistics and inference](#), ICTP Trieste, Italy
- 2020–2022 Program Committee Member  
[Mathematical and Scientific Machine Learning conference \(MSML\)](#)
- 2020 CSRC-ICTP one day online workshop  
[Big data, machine learning and complexity research](#)
- 2020 Two days online conference  
[Mathematical methods and models in machine learning](#)
- 2019 [IEEE CAMSAP conference](#), Guadeloupe FR. Special session  
Statistical physics for signal processing and learning

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## Reviewing activities

American Math. Society Jrnl. (AMS) - Neural Info. Processing Systems Conf. (NeurIPS) - Trans. on Machine Learning Research (TMLR) - Math. and Scientific Machine Learning Conf. (MSML) - Intl. Conf. on Machine Learning (ICML) - Intl. Conf. on Learning Representations (ICLR) - Math. Statistics and Learning - IEEE Trans. on Info. Theory - IEEE Intl. Symposium on Info. Theory (ISIT) - IEEE Info. Theory Workshop (ITW) - Jrnl. of Phys. A - Jrnl. of Stat. Phys. - Jrnl. of Stat. Mech.

## Major collaborations

N. Macris, F. Krzakala and L. Zdeborová (EPFL) - D. Panchenko (Toronto U) - W.K. Chen (Minnesota U) - P. Contucci (Bologna University) - F. Ricci-Tersenghi (Sapienza University) - M. Gabrié (Polytechnique) - C. Rush (Columbia) - G. Reeves (Duke) - M. Mézard (ENS) - E. Roldán and A. Ingrosso (ICTP) - S. Goldt (SISSA) - M. Mondelli (IST Austria) - P. Sur (Harvard)