

# Jaouad Mourtada

*Assistant professor in Statistics*

## Positions

- sep. 2020 – **Assistant Professor**, *ENSAE/CREST*, Department of Statistics.  
...
- nov. 2019 – **Research Fellow**, *under the supervision of Lorenzo Rosasco*, Laboratory for Computational and Statistical Learning, MaLGA center, University of Genova.  
aug. 2020

## Education

- 2016–2020 **Ph.D. in Applied Mathematics**, *under the supervision of Stéphane Gaïffas and Erwan Scornet*, Centre de Mathématiques Appliquées (CMAP), École Polytechnique.  
Thesis: “Contributions to statistical learning: density estimation, expert aggregation and random forests”. Defended June 8th, 2020.
- 2012 – 2016 **Student at École Normale Supérieure, Paris**, Department of Mathematics and Applications (DMA), with minors in economics and physics.
- 2016 **Master 2 in Mathematics**, *Université Pierre et Marie Curie (Paris VI)*, Major “Probabilités et Modèles Aléatoires” (Probability and Random Models).
- 2015 **Master 2 in Mathematics**, *Université Pierre et Marie Curie (Paris VI)*, Major “Mathématiques fondamentales” (Fundamental Mathematics).
- 2013 **B.S. in Mathematics**, *École Normale Supérieure & Université Pierre et Marie Curie (Paris VI)*.
- 2010 – 2012 **Classes préparatoires**, *Lycée Louis-le-Grand*, Paris.

## Publications

- 2022 **An elementary analysis of ridge regression with random design**, J. Mourtada, L. Rosasco, To appear in *Comptes Rendus Mathématique*, arXiv:2203.08564. [arXiv](#).
- 2021 **Distribution-free robust linear regression**, J. Mourtada, T. Vaškevičius, N. Zhivotovskiy, *Mathematical Statistics and Learning*, 4(3):253–292. [Link arXiv](#).
- 2021 **Regularized ERM on random subspaces**, A. Della Vecchia, J. Mourtada, E. De Vito, L. Rosasco, *Proceedings of the 24th international conference on Artificial Intelligence and Statistics*, PMLR 130:4006–4014. [Link arXiv](#).
- 2021 **Asymptotics of ridge(less) regression under general source condition**, D. Richards, J. Mourtada, L. Rosasco, *Proceedings of the 24th international conference on Artificial Intelligence and Statistics*, PMLR 130:3889–3897. [Link arXiv](#).

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- 2022 **An improper estimator with optimal excess risk in misspecified density estimation and logistic regression**, J. Mourtada, S. Gaïffas, *Journal of Machine Learning Research*, 23(31):1–49. [Link arXiv](#).
- 2022 **Exact minimax risk for linear least squares, and the lower tail of sample covariance matrices**, J. Mourtada, *Annals of Statistics*, 50(4):2157–2178. [Link arXiv](#).
- 2021 **AMF: Aggregated Mondrian forests for online learning**, J. Mourtada, S. Gaïffas, E. Scornet, *Journal of the Royal Statistical Society (B)*, 83(3):505–533. [Link arXiv](#).
- 2019 **On the optimality of the Hedge algorithm in the stochastic regime**, J. Mourtada, S. Gaïffas, *Journal of Machine Learning Research*, 20(83):1–28. [Link arXiv](#).
- 2020 **Minimax optimal rates for Mondrian trees and forests**, J. Mourtada, S. Gaïffas, E. Scornet, *Annals of Statistics*, 48(4):2253–2276. [Link arXiv](#).
- 2017 **Universal consistency and minimax rates for online Mondrian Forests**, J. Mourtada, S. Gaïffas, E. Scornet, *Advances in Neural Information Processing Systems 30*, pp. 3758–3767. [Link arXiv](#).
- 2017 **Efficient tracking of a growing number of experts**, J. Mourtada, O.-A. Maillard, *Proceedings of the 28th international conference on Algorithmic Learning Theory*, PMLR 76:517–539. [Link arXiv](#).

## Talks

- Aug 2022 **Journées MAS 2022**, Rouen.
- Jun 2022 **International Symposium of Nonparametric statistics**, Paphos.
- Jun 2022 **Workshop “New trends in statistical learning”**, Porquerolles.
- May 2022 **Oberwolfach workshop “Re-thinking high-dimensional mathematical statistics”**, Mathematisches Forschungsinstitut Oberwolfach, Germany.
- Mar 2022 **Séminaire Parisien de Statistique**, Institut Henri Poincaré, Paris.
- Nov 2021 **Math and Data (MAD+) Seminar**, ETH Zürich.
- Nov 2021 **Séminaire du LMAC**, Université de Technologie de Compiègne.
- Jun 2021 **LCSL seminar**, University of Genova.
- May 2021 **Workshop “New trends in statistical learning”**, Porquerolles.
- Apr 2021 **Séminaire de Probabilités et Statistique**, LJAD, Université de Nice.
- Mar 2021 **Seminar**, University of Toronto.
- Mar 2021 **Séminaire Palaisien**, IP Paris, Palaiseau.
- Mar 2021 **MIA seminar**, AgroParisTech, INRAE, Paris.
- Nov 2020 **LPSM seminar**, Université Paris Diderot & Sorbonne Université, Paris.
- Sep 2020 **Statistics seminar**, CREST-ENSAE, Palaiseau.
- May 2020 **LCSL seminar**, University of Genova.
- Jan 2020 **Séminaire Parisien de Statistique**, Institut Henri Poincaré, Paris.
- Sep 2019 **StatMathAppli 2019**, Fréjus.
- Jun 2019 **Journées de Statistiques (JdS 2019)**, Nancy.

- Apr 2019 **PhD students seminar**, *École polytechnique*.
- Dec 2018 **CMStatistics 2018**, *University of Pisa*.
- Sep 2018 **Young Mathematicians Symposium of the Greater Region**, *Nancy*.
- May 2018 **Journées de Statistiques (JdS 2018)**, *EDF Lab Paris Saclay*.
- May 2018 **Young probabilists and statisticians**, *Oléron*.
- Oct 2017 **ALT 2017**, *Kyoto*.
- Feb 2017 **Sequel seminar**, *INRIA Lille*.

## Awards

- 2020 **Jacques Neveu prize 2020**, *for a French Ph.D in probability and statistics*.

## Service

- Journal reviewing Annals of Statistics, Bernoulli, Electronic Journal of Statistics, Journal of Machine Learning Research, Mathematical Statistics and Learning, SIAM Journal on Mathematics of Data Science.
- Conference reviewing NeurIPS, COLT, ICML, AISTATS.
- Seminars Co-organizer of the Statistics Seminar, *CREST, ENSAE & CMAP, École polytechnique*, with C. Butucea, K. Lounici and A. Tsybakov, [Seminar page](#).

## Teaching

- fall 2020 & 2021 **Statistical learning theory**, *Master 2 Data Science, École polytechnique & ENSAE 3rd year*.
- fall 2020 & 2021 **Probability theory**, *2e année directe, ENSAE*.
- fall 2018 **Teaching assistant, “Probability Refresher” (MAP 534)**, *T. Rebařka, T. Mastrolia, “Data Science for Business” Master program (Polytechnique–HEC)*.
- spring 2018 **Teaching assistant, “Statistics in Action with R” (MAP 546)**, *M. Lavielle, “Data Science for Business” Master program (Polytechnique–HEC)*.
- spring 2018 & 2019 **Teaching assistant, “Python for Probability” (MAP 311-312)**, *F. Benaych-Georges, École Polytechnique (first year)*.
- fall 2017 & 2018 **Teaching assistant, “Machine Learning: from theory to practice”**, *F. d’Alché-Buc and E. Le Pennec, Master 2 Data Science, Université Paris-Saclay*.
- fall 2018 & 2019 **Teaching assistant, “Statistical inference” (MAP 433)**, *E. Moulines, École Polytechnique (second year)*.
- summer 2017 **Contributed to lecture notes for the “Statistical inference” class (MAP 433)**, *taught by E. Moulines, with G. Fort, M. Lerasle, E. Moulines, École polytechnique*.
- fall 2016 **Teaching assistant, “Optimization for Machine Learning”**, *A. Gramfort, S. Gaïffas, Master 2 Data Science, Université Paris-Saclay*.

## Student supervision

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Jun–Aug 2022 **Sirine Louati**, *MSc. (Master 1) internship*.

2021–... **Hugo Chardon**, *Ph.D. thesis*, co-supervised with M. Lerasle.

2020 **Koen Sanders**, *MSc. internship*, co-supervised with L. Rosasco.

## Internships

summer 2016 **Master 2 research internship**, supervised by *Odalric-ambrym Maillard*, Sequential prediction through expert aggregation, INRIA Saclay.

summer 2015 **Research internship**, supervised by *Olivier Commowick and Christian Barillot*, Interpolation of multi-compartment models in brain imaging, INRIA/IRISA Rennes.

spring 2015 **Master 2 research internship**, supervised by *Frédéric Le Roux*, Morphisms between diffeomorphism groups of manifolds, Paris VI.

## Miscellaneous

Programming Python, Matlab, OCaml

Languages French (mother tongue), English (fluent), Spanish (intermediate), Italian (beginner)