

Paul Catala

Postdoc in Applied Mathematics

+33 6 30 97 82 83

paul.catala@uos.de

<https://paulcat.github.io>

born January 30, 1993

Education

- 2016–2020 **Ph.D. in Applied Mathematics**, *ENS PSL*, Paris, France, Title: *Semidefinite Relaxations for Imaging Science*.
Advisors: Vincent Duval and Gabriel Peyré
- 2015–2016 **Master of Science**, *ENS Paris-Saclay (ex Cachan)*, Cachan, France, *Master MVA*.
- 2013–2014 **Undergraduate Degree**, *Université Paris VI*, Paris, France, *Mathematics*.
- 2013–2016 **Engineer Degree**, *Télécom ParisTech*, Paris, France, *Major in Applied Mathematics and Image Processing*.
- 2010–2013 **Preparatory school**, *Lycée Henri IV*, Paris, France, *Mathematics, Physics, Computer science*.

Professional Experience

- 2020– **Postdoc**, *University of Osnabrück*, Osnabrück, Germany, Subject: development and analysis of methods for the estimation of singular measures from partial measurements..
Advisor: Stefan Kunis
- 2014 **Web developer intern**, *Blue Spirit Studio*, Paris, France.
Participation to the development (Javascript) of a web application for production management tools in an animation studio. Advisor: Jan Roudaut

Teaching

- 2022 **Teaching Assistant**, *University of Osnabrück*, Osnabrück, Germany, In English.
Mathematics for cognitive sciences (1st year) - Lecturer: S. Kunis
- 2016–2019 **Teaching Assistant**, *Université Paris-Dauphine*, Paris, France, In French.
Algèbre linéaire (L1, 2nd semestre) - Lecturer: A. Afgoustidis
Calcul différentiel et optimisation (L3, 1er semestre) - Lecturer: J. Féjóz
Probabilités multidimensionnelles (L2, 2nd semestre) - Lecturer: J. Trashorras/J. Poisat

Skills

Programming Matlab (excellent), Python (excellent), C++ (good), Julia (working knowledge)
Languages French (native), English (fluent), German (working proficiency), Spanish (basics)

Publications

Journal and conference papers

- 2022 **P. Catala, J.F. Cardoso, V. Duval, G. Peyré**, *A joint diagonalization algorithm for off-the-grid non-sparse recovery*, In preparation.

- P. Catala, M. Hockmann, S. Kunis, M. Wageringel**, *Approximation and interpolation of singular measures by trigonometric polynomials*, Submitted.
- 2020 **P. Catala**, *Semidefinite Relaxations for Imaging Science*, PhD Thesis.
- 2019 **P. Catala, V. Duval, G. Peyré**, *Group-Lasso Wasserstein sans grille*, GRETSI.
- P. Catala, V. Duval, G. Peyré**, *A low-rank approach to off-the-grid sparse super-resolution*, SIAM J. Imaging Science.

[Selected conference talks](#)

- 03/2022 **SIAM IS22**, *Estimating Arbitrary Measures on the Torus from Moments*, online.
- 12/2021 **Neurips OTML Workshop**, *Towards a FFT for measures*, online, (poster).
- 09/2019 **GRETSI**, *Off-the-grid Wasserstein group-Lasso*, Lille, France.
- 07/2019 **AIP**, *A low-rank approach to off-the-grid sparse super-resolution*, Grenoble, France.
- 06/2017 **SPARS**, *A low-rank approach to off-the-grid sparse deconvolution*, Lisbon, Portugal, (poster).