Paul Catala

Ph.D. in Applied Mathematics

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January 30, 1993

Skills

Mathematics — Optimization (sparse optimization, semidefinite programming, moment-sos hierarchies), inverse problems (super-resolution), Fourier analysis.

Programming — Matlab (excellent), Python (good).

Languages — French (native), English (fluent), Spanish (basics).

Education

2016 – **Ecole Normale Supérieure**, *Ph.D. student*, Paris, France.
Semidefinite hierarchies for imaging science.
Supervised by G. Peyré and V. Duval.

2015–2016 **Ecole Normale Supérieure**, *Master of Science*, Cachan, France..
Master MVA: Mathematics for vision and machine learning

2014–2015 **Université Paris VI**, *Undergraduate Degree*, Paris, France.
Mathematics

2013–2016 **Télécom ParisTech**, *Engineer Degree*, Paris, France.
Major in Applied Mathematics and Image Processing

2010–2013 **Preparatory school**, *Lycée Henri IV*, Paris, France.
Mathematics, Physics, Computer Science

Professional Experience

2016 – **Ecole Normale Supérieure**, *Ph.D. student*, Paris, France.
Advisors: Gabriel Peyré, Vincent Duval

2014 **Blue Spirit (Animation Studio)**, *Intern*, Paris, France.
Web development (Javascript) for production management tools
Advisor: Jan Roudaut

Teaching

2016–2019 **Université Paris-Dauphine**, *Teaching Assistant*, Paris, France.
Linear Algebra (*1st year*)
Differential Calculus and Optimization (*3rd year*)
Probability (*2nd year*)

Publications

P. Catala, V. Duval and G. Peyré, Group-Lasso Wasserstein Sans Grille, in *GRETSI*, 2019.

P. Catala, V. Duval and G. Peyré, A Low-Rank Approach to Off-the-Grid Sparse Super-Resolution, *SIAM J. Imaging Science*, 2019.

Selected talks

09/2019 **GRETSI**, *Lille*, France.
Off-the-grid Wasserstein Group-Lasso

07/2019 **Applied Inverse Problems**, *Grenoble*, France.
A low-rank approach to off-the-grid sparse super-resolution

06/2017 **SPARS**, *Lisbon*, Portugal.
A low-rank approach to off-the-grid sparse deconvolution (poster)