Maxime Sylvestre

Research interests

Optimal transport, Entropic optimal transport and their variations.

Education

2026–	**Postdoc**, *University of Vienna*, Vienna, Austria
2022–2025	**Ph.D. in Mathematics**, *Université Paris Dauphine PSL*, Paris, France Funded by CDSN (Contrat doctoral spécifique normalien)
2021	**M.S. in Mathematics**, *Université Paris-Saclay*, Orsay, France
2019	**B.A. in Mathematics**, *Université Pierre et Marie Curie*, Paris, France
2018–2022	**Studies in Mathematics**, *École normale supérieure*, Paris, France

Publications and preprints

1. Weak optimal transport with moment constraints: constraint qualification, dual attainment and entropic regularization Guillaume Carlier, Hugo Malamut, Maxime Sylvestre. *arXiv:2511.16211*, 2025.

2. A comparison principle for variational problems : with an application to optimal transport Flavien Léger, Maxime Sylvestre. *2506.18884*, 2025.

3. Global Regularity Estimates for Optimal Transport via Entropic Regularisation. Nathael Gozlan, Maxime Sylvestre. *arXiv:2501.11832*, 2025.

4. On a class of adversarial classification problems which admit a continuous solution. Guillaume Carlier, Maxime Sylvestre. *JOTA*, 2024.

5. Implicit Bias in Noisy-SGD: With Applications to Differentially Private Training. Tom Sander, Maxime Sylvestre, Alain Durmus. *AISTATS*, 2024.

6. Convergence Rates of the Regularized Optimal Transport : Disentangling Suboptimality and Entropy. Hugo Malamut, Maxime Sylvestre. *SIAM Journal on Mathematical Analysis*, 2023.

7. Monotone comparative statics for submodular functions, with an application to aggregated deferred acceptance. Alfred Galichon, Yu-Wei Hsieh, Maxime Sylvestre. *arXiv:2304.12171*, 2023.

Selected talks

- Séminaire IRIMAS, Université Haute-Alsace, France, January 2026
- RT Optimisation, Lyon, France, November 2025
- Optimal transport for complex data, University of Viena, Austria, July 2025
- Workshop MFG OT ML, NYU Paris, France, June 2025
- Inference on the equilibrium flow problem, IESC, France, April 2025
- Séminaire d'Analyse Fonctionnelle, Sorbonne Université, France, March 2025
- GT OT-PDE-ML, Université d'Orsay, France, January 2025
- CANUM, France, June 2024
- AISTATS, Spain, May 2024

○ Topics in optimal transport, IESC, France, April 2024
○ SMAI MODE, Université de Lyon, France, March 2024
○ Optimal transport and applications, MFO, Germany, February 2024

Teaching experience and responsibilities

2023–2025 **Elected representative of PhD students**, *Laboratory council, CEREMADE*, Université Paris Dauphine PSL

2025 **Teaching assistant**, *Linear and Nonlinear Optimization*, NYU Paris

2024 **Teaching assistant**, *Linear Algebra*, Université Paris Dauphine PSL

2023 **Teaching assistant**, *Numerical Methods*, Université Paris Dauphine PSL

Languages

French (Mothertongue), English (Fluent)