## Lucas Journel — Curriculum Vitae

Office 210 – Rue Emile-Argand 11 – 2000 Neuchâtel, Suisse ☑ lucas.journel@unine.ch • ♦ http://www.normalesup.org/ journel/ Born 10/05/1996

## Education

<b>Post-doctoral position with M. Benaïm</b> Institut de Mathématiques, Université de Neuchâtel, Neuchâtel	Since September 2024
<b>PhD Thesis under the supervision of P. Monmarché</b> <i>Laboratoire Jacques-Louis Lions, Sorbonne Université, Paris</i> "Long-time behavior of some Markov processes, and application to stochastic algorithms"	September 2021- June 2024
Master 2 : Probability and Random Models Sorbonne Université, Paris	2018–2019
Master 1 in Mathematics École Normale Supérieure, Paris	2017–2018
Bachelor in Mathematics École Normale Supérieure, Paris	2016–2017
<b>Bachelor in Physics</b> École Normale Supérieure, Paris	2016–2017
Internships	
Internship under the supervision of P.Monmarché Laboratoire Jacques-Louis Lions, Sorbonne Université, Paris "Convergence and failure of the kinetic annealing"	September 2020-June 2021
Internship under the supervision of P.Monmarché Laboratoire Jacques-Louis Lions, Sorbonne Université, Paris "Approximation of quasi-stationary distribution by Fleming-Viot particle system"	February-June 2019
<b>Internship under the supervision of Ron Peled</b> Wladimir Schreiber Institute of Mathematical Sciences, Tel-Aviv University "Noise sensitivity for the Gaussian Free Field"	February-June 2018
Internship under the supervision of François Petrelis Laboratoire de Physique Statistique, École Normale Supérieure, Paris "Dynamo effect in magnetohydrodynamics"	June-July 2017
Experiences and Distinctions	
<b>Challenge ANIES</b> ONG Lebanese Alternative Learning, Beyrouth Developing mathematical courses in mathematics for children who can't acces school in Leb	August-2021
<b>Content Developer</b> ONG Lebanese Alternative Learning, Beyrouth Developing mathematical courses in mathematics for children who can't acces school in Leb	2019-2020
Private mathematics lessons for Sudanese migrants Volontary work	2018-2019
Reviewer for students competencies in Preparatory class MP* Louis le Grand High-School, Paris	2018-2019
Reviewer for students competencies in Preparatory class PSI	2016-2017

Pierre-Gilles de Gennes High-School, Paris

## Publications and pre-prints

L. Lucas Journel, T. Lelièvre, and J. Reygner. Condensation in fleming-viot particle systems with fast selection mechanism. 2024.

Lucas Journel. Weak error expansion of a numerical scheme with rejection for singular Langevin process. *ESAIM, Math. Model. Numer. Anal.*, 58(3):1153–1184, 2024.

L. Journel and P. Monmarché. Convergence of a particle approximation for the quasi-stationary distribution of a diffusion process: uniform estimates in a compact soft case. *ESAIM*, *Probab. Stat.*, 26:1–25, 2022.

L. Journel and P. Monmarché. Convergence of the kinetic annealing for general potentials. *Electron. J. Probab.*, 27:37, 2022. Id/No 159.

L. Journel and P. Monmarché. Switched diffusion processes for non-convex optimization and saddle points search. *Statistics and Computing*, 2023.

L. Journel and P. Monmarché. Uniform convergence of the fleming-viot process in a hard killing metastable case. Arxiv, 2022.

N Gouraud, L. Journel, and P. Monmarché. The velocity jump langevin process and its splitting scheme: long time convergence and numerical accuracy, 2024.

L. Journel and M. Rousset. The particle approximation of quasi-stationary distributions. part i: concentration bounds in the uniform case, 2024.

## **Talks and Posters**

Séminaire de Calcul stochastique	October 15th 2024
Strasbourg, France	Talk
Kinetic equation, Mathematical Physics and Probability	June 17th 2024
Bilbao, Spain	Talk
<b>On-line seminar</b>	December 14th 2023
Seoul, Korea	Talk
<b>A Random Walk in the Land of Stochastic Analysis and Numerical Probability</b>	September 4th 2023
<i>Marseille, France, Conference in honor of Denis Talay</i>	Poster
International Conference on Monte Carlo Methods and Applications	June 29th 2023
Paris, France	Talk
Séminaire de probabilité et statistique	September 19th 2022
Montpellier, France	Talk
Journées MAS	August 29th 2022
Rouen, France	Talk
Summer school : Global Sensivivity Analysis and Poincaré inequalities	July 6th 2022
Toulouse, France	Talk
Journées EFI 2021	October 15th 2021
Paris, France	Talk
<b>10ième Biennale Française des Mathématiques Appliquées et Industrielles</b>	June 22th 2021
<i>La Grande Motte, France</i>	Talk