Armand Gissler

Curriculum Vitae

Inria Paris
48 rue Barrault, 75013 Paris, France
✉ *firstname.lastname@inria.fr*
🌐 *agissler.github.io*

Work Experience

Research

Feb. 2025 – (currently)	**Post-doctoral Fellow at SIERRA team**, *Inria Paris*, Supervisor: Francis Bach Analysis of sampling algorithms
Oct. 2021 – Dec. 2024	**PhD in Applied Mathematics**, *Inria & CMAP, École polytechnique*, Supervisors: Anne Auger and Nikolaus Hansen Convergence analysis of Evolution Strategies with Covariance Matrix Adaptation (CMA-ES)
Oct. 2020 – June 2021	**Pre-doctoral Research Internship**, *McGill University, Montreal*, Supervisor: Tim Hoheisel A note on the K-epigraph.
April – Aug. 2020	**Research Internship (M2)**, *Inria Saclay - CMAP, École Polytechnique*, Supervisor: Anne Auger Line search and learning rate influence on Evolution Strategies convergence.
April – Aug. 2019	**Research Internship (M1)**, *University of Edinburgh*, Supervisor: Lukasz Szpruch Mean-field stochastic control and optimization.
Feb. – June 2018	**Research Initiation Internship (L3)**, *CMLA, ENS Cachan*, Supervisor: Alain Durmus Study of non-reversible MCMC methods.

Teaching

2021–2024	Teaching assistant, Bachelor of Science, École polytechnique – LAB 102: How to write mathematics (3 years)
2017–2018	Oral examiner, Lycée Michelet
2017–2018	Tutor, Institut Villebon-Charpak

Awards

2025	**PhD Award**, *Gaspard Monge Program for Optimization, Operations Research and their Interactions with Data Science (PGMO)*, Palaiseau, France
2025	**Dissertation Award – Honorable mention**, *SIGEVO*, Málaga, Spain

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Education

2019 – 2020	**Master's Degree (M2) in Mathematics, Vision, Learning (MVA)**, *ENS Paris-Saclay*
2017 – 2021	**Master's Degree (M1) in Mathematics and Applications**, *ENS Paris-Saclay / Université Paris-Saclay / École polytechnique*
2017 – 2018	**Bachelor's Degree (L3) in Mathematics**, *ENS Paris-Saclay*

Laboratory Life

2022–2024	Co-organizer, CMAP & CMLS PhD Seminar
2022–2024	Member, CMAP Laboratory Life Commission

Scientific Publications

In Preparation

Discrete Langevin samplers with Metropolis-Hastings steps
Armand Gissler, Francis Bach, Saeed Saremi.

Linear convergence of CMA-ES and learning of second-order information.
Armand Gissler, Anne Auger, Nikolaus Hansen.

Geometric ergodicity of normalized Markov chains underlying CMA-ES
Armand Gissler, Anne Auger, Nikolaus Hansen.

Preprints

Sept. 2024   *Irreducibility of nonsmooth state-space models with an application to CMA-ES*
Armand Gissler, Shan-Conrad Wolf, Anne Auger, Nikolaus Hansen.
`https://hal.science/hal-04713675/`

Feb. 2024   *On the irreducibility and convergence of a class of nonsmooth nonlinear state-space models on manifolds*
Armand Gissler, Alain Durmus, Anne Auger.
`https://arxiv.org/pdf/2402.06447.pdf`

Journal Articles

Apr. 2024   *Asymptotic estimations of a perturbed symmetric eigenproblem*
Armand Gissler, Anne Auger, Nikolaus Hansen. Applied Mathematics Letters.
`https://inria.hal.science/hal-04386103v1/document`

Sept. 2023   *A note on the K-epigraph*
Armand Gissler, Tim Hoheisel. Optimization.
`https://arxiv.org/pdf/2107.00117.pdf`

Oct. 2021   *Scaling-invariant functions versus positively homogeneous functions*
Cheik Touré, Armand Gissler, Anne Auger, Nikolaus Hansen. JOTA.
`https://arxiv.org/abs/2101.03755`

Conference Proceedings

July 2023   *Evaluation of the impact of various modifications to CMA-ES that facilitate its theoretical analysis*
Armand Gissler. GECCO 2023.
`https://hal.science/hal-04089923/file/evaluation2023author_version.pdf`

July 2022   *Learning Rate Adaptation by Line Search in Evolution Strategies with Recombination*
Armand Gissler, Anne Auger, Nikolaus Hansen. GECCO 2022.
`https://inria.hal.science/hal-03644404/document`

Communications

Nov. 2024   SIERRA Seminar, Inria, Paris

July 2024   International Symposium of Mathematical Programming (ISMP), Montréal, Canada

June 2024   Theory of Randomized Optimization Heuristics, Dagstuhl, Germany

March 2024   CMAP PhD Students Seminar, Palaiseau, France

Oct. 2023   Young Probabilits and Statisticians (JPS) Colloquium, Oléron, France

Sept. 2023   Applied Mathematics Young Researchers Congress (CJC-MA), Gif-sur-Yvette, France

July 2023   BBOB Workshop, GECCO'23, Lisbon, Portugal

June 2023   SIAM Conference on Optimization (SIAM OP23), Seattle, United States

July 2022   GECCO'22, Boston, United States

Feb. 2022   Theory of Randomized Optimization Heuristics, Dagstuhl, Germany