

Noé CUNEO

Personal data

Birth: 08 October 1987 — Lausanne, Switzerland
Address: Université Paris Cité, UFR de Mathématiques, Bâtiment Sophie Germain, 8 place Aurélie Nemours, 75205 Paris CEDEX 13, France.
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Education and positions

- 2018- ... **Maître de conférences** (\sim tenured assistant professor), Laboratoire de Probabilités, Statistique et Modélisation (LPSM), Université Paris Cité (formerly Paris Diderot, Paris 7), France.
- 2017- 2018 **Postdoc**, Laboratoire AGM, Université de Cergy-Pontoise, France, with A. Shirikyan.
- 2016- 2017 **Postdoc**, Department of Mathematics and Statistics, McGill University, Montreal, Canada, with V. Jakšić.
- 2012- 2016 **Ph.D., Physics**, University of Geneva, Switzerland. Advisor: J.-P. Eckmann. Ph.D. thesis: *Non-equilibrium steady states for Hamiltonian chains and networks*. Thesis committee: J.-P. Eckmann (advisor), Y. Velenik (co-advisor), M. Hairer, A. Shirikyan.
- 2010- 2012 **M.Sc., Physics**, EPFL (Ecole Polytechnique Fédérale de Lausanne), Switzerland. Master's thesis: *Intermittency: physics and mathematics. Ergodic properties of a class of 1D intermittent dynamical systems*. Advisor: C.-E. Pfister.
- 2007- 2010 **B.Sc., Physics**, EPFL, Switzerland.

Publications and preprints

- 2023 N. Cuneo and R. Raquépas. Large deviations of return times and related entropy estimators on shift spaces. *arXiv preprint 2306.05277 [math.PR]*, 2023, accepted in Communications in Mathematical Physics. Links: [arXiv](#)
- 2021 T. Benoist, N. Cuneo, V. Jakšić, and C.-A. Pillet. On entropy production of repeated quantum measurements II. Examples. *Journal of Statistical Physics*, 182(3):1–71, 2021. Links: [arXiv](#) , [published version](#)
- 2020 N. Cuneo. Additive, almost additive and asymptotically additive potential sequences are equivalent. *Communications in Mathematical Physics*, 377(3):2579–2595, 2020. Links: [arXiv](#) , [published version](#)
- 2019 N. Cuneo, V. Jakšić, C.-A. Pillet, and A. Shirikyan. Large deviations and fluctuation theorem for selectively decoupled measures on shift spaces. *Reviews in Mathematical Physics*, 31(10):1950036–1–54, 2019. Links: [arXiv](#) , [published version](#)
- 2018 N. Cuneo, J.-P. Eckmann, M. Hairer, and L. Rey-Bellet. Non-equilibrium steady states for networks of oscillators. *Electronic Journal of Probability*, 23: paper no. 55, 28pp, 2018. Links: [arXiv](#) , [published version](#)
- 2017 N. Cuneo, V. Jakšić, C.-A. Pillet, and A. Shirikyan. Fluctuation theorems and thermodynamic formalism. *arXiv:1712.05167*, 2017. Links: [arXiv](#)
- 2017 N. Cuneo, J.-P. Eckmann, and C. E. Wayne. Energy dissipation in Hamiltonian chains of rotators. *Nonlinearity*, 30(11):R81. Selected in “Nonlinearity Highlights of 2017”, 2017. Links: [arXiv](#) , [published version](#)
- 2017 N. Cuneo and C. Poquet. On the relaxation rate of short chains of rotors interacting with Langevin thermostats. *Electronic Communications in Probability*, 22: paper no. 35, 8pp, 2017. Links: [arXiv](#) , [published version](#)

- 2016 N. Cuneo and J.-P. Eckmann. Non-equilibrium steady states for chains of four rotors. *Communications in Mathematical Physics*, 345(1):185–221, 2016. Links: arXiv [↗](#), published version [↗](#)
- 2015 N. Cuneo, J.-P. Eckmann, and C. Poquet. Non-equilibrium steady state and subgeometric ergodicity for a chain of three coupled rotors. *Nonlinearity*, 28(7):2397–2421, 2015. Links: arXiv [↗](#), published version [↗](#)
- 2014 N. Cuneo and J.-P. Eckmann. Controlling general polynomial networks. *Communications in Mathematical Physics*, 328(3):1255–1274, 2014. Links: arXiv [↗](#), published version [↗](#)

Awards, scholarships and grants

- 2023 Associate member of the **ENIC** project (180000€), with 9 collaborators.
- 2022 **Montreal Centre de Recherches Mathématiques** travel grant (5200 CAD) for a 1-month stay.
- 2020 Member of the **QTraj JCJC ANR Project** (195913€), with 7 collaborators.
- 2019 **Royal Society grant** (12000£) for the project “Collective Dynamics on Networks” with B. Fernandez, J. Lamb, M. Rasmussen, F. Selley and S. van Strien.
- 2019 Member of the **PERISTOCH ANR Project** (209593€), with 13 collaborators.
- 2019 **INSMI PEPS grant** (4000€) for the project “Repeated quantum measurements: entropy production, large deviations and fractal dimension”, with T. Benoist.
- 2017 **ISITE Postdoctoral fellowship** (24 months) at Université de Cergy-Pontoise, France.
- 2015 **Early Postoc.Mobility fellowship** (Swiss National Science Foundation) for an 18-month postdoc at McGill University, Montreal, Canada and at Université de Cergy-Pontoise, France.
- 2012 **EPFL Prize** for the best Master’s degree results across EPFL (6.00/6.00).
- 2010 **EPFL Prize** for the best Bachelor’s degree results across EPFL (5.90/6.00).
- 2010 **EPFL Excellence Scholarship** for the Master’s cycle.
- 2009 **Tschumy Prize** for the best first-year results across EPFL (5.93/6.00).

Teaching

- 2023-2024 *Elementary Mathematics 1* (lectures and exercise sessions), Université Paris Cité.
- 2022-2024 *Discrete Probability* (lectures), Université Paris Cité.
- 2021-2024 *Mathematical Methods for Data Sciences* (lectures), Université Paris Cité.
- 2020-2022 *Mathematical Methods for Data Sciences* (exercise sessions), Université Paris Cité.
- 2020-2024 *Discrete Probability* (exercise sessions), Université Paris Cité.
- 2020-2022 *Elementary Mathematics 1* (lectures and exercise sessions), Université Paris Cité.
- 2019 Advisor for summer projects (second-year students in mathematics), Université Paris Cité.
- 2019 *Discrete Probability* (lectures and exercise sessions), Université Paris Cité.
- 2018-2020 *Elementary Analysis and Algebra 1* (lectures and exercise sessions), Université Paris Cité.
- 2017 *Ergodic theory with applications to number theory and intermittency* (summer lectures), McGill University.
- 2017 Advisor for summer projects (undergraduate students in mathematics), McGill University.
- 2014-2016 T.A. for *Introduction to Perturbative Methods*, University of Geneva.
- 2014 Advisor for a Master’s student’s half-semester project, University of Geneva.
- 2013-2016 T.A. for *Mechanics II*, University of Geneva.
- 2012-2013 T.A. for *Mathematical Methods for Physicists I*, University of Geneva.
- 2010-2012 T.A. for *Analysis I-II for Physicists and Mathematicians*, EPFL.
- 2009 T.A. for *Laboratory Work in Physics*, Medical School, University of Lausanne.

Duties, responsibilities and work for the mathematics community

- 2022 Co-organizer of J.-P. Eckmann’s 75th birthday conference (initially scheduled in June 2020 and moved due to covid-19).

- 2021 Co-organizer of the *Quantum Trajectories Fall School 2021*, 18-22 October, 2021, Toulouse.
- 2021 Member of a hiring committee for a postdoc position in the group of V. Baladi, LPSM, Sorbonne Université.
- 2019-2024 Presentations for the general public at *Fête de la Science*.
- 2019- ... Member of the pedagogical commission, UFR de mathématiques, Université Paris Cité.
- 2019-2020 Member of the organizing committee for the first- and second-year summer projects in mathematics, Université Paris Cité.
- 2016- ... Development and maintenance of *sharxiv.org*, a customizable, mobile-enabled arXiv front-end.

Talks

- Apr. 2024 International Association of Mathematical Physics, *One World Mathematical Physics Seminar* (online).
- Mar. 2024 Institut Henri Poincaré, Paris, *COOL monthly seminar*.
- Mar. 2024 Université Paris Cité, *MAP5-LPSM joint seminar*.
- Dec. 2023 Mathematical institute of the Serbian Academy of Sciences and Arts, Belgrade, Serbia, *Mini-workshop on Entropies for Complex processes* (online).
- Dec. 2023 LMPA J. Liouville, Université du Littoral Côte d'Opale, Calais, *Séminaire de l'équipe EMA*.
- Nov. 2023 LAMFA, Université de Picardie Jules Verne, Amiens, *Séminaire SymPA*.
- Nov. 2023 IMJ-PRG, Sorbonne Université, Paris, *Séminaire de Systèmes Dynamiques*.
- June 2023 IEA, CY Cergy Paris Université, *Frontiers in Mathematical Physics* conference.
- May 2023 Stefan Banach Center, Bedlewo, Polish Academy of Sciences, *Thermodynamic Formalism: Non-additive Aspects and Related Topics* conference.
- June 2022 Institut de Mathématiques de Toulouse, Université Paul Sabatier, Toulouse, *Maths-Physique seminar*.
- June 2022 Université de Toulon, *Beyond Gibbsianity* workshop.
- June 2022 University of Geneva, *Mathematical Physics at coffee: the first 50 years*, Conference in honor of J.-P. Eckmann's 75th birthday.
- Jan. 2022 IEA, CY Cergy Paris Université, *annual meeting of the ANR project NONSTOPS*.
- Jan. 2022 IEA, CY Cergy Paris Université, *annual meeting of the ANR project NONSTOPS*.
- Jan. 2022 LPSM, Université de Paris, *Groupe de travail Modélisation*.
- June 2021 Institut de Mathématiques de Toulouse, Université Paul Sabatier, Toulouse, *ANR QTraj kickoff week*.
- Apr. 2021 IEA, CY Cergy Paris Université, *McGill-CY Cergy Paris Mathematical Physics Seminar*.
- Mar. 2021 SAMM, Université Paris 1 Panthéon-Sorbonne, *Séminaire du SAMM*.
- Nov. 2020 LPSM, Sorbonne Université, *Les Probas du Vendredi*.
- Feb. 2020 Université Paris Nanterre, *MODAL'X Seminar*.
- Dec. 2019 IEA, Université de Cergy-Pontoise, *2019 annual meeting of the ANR project NONSTOPS* (cancelled due to strikes).
- Dec. 2019 Imperial College London, *ICL-CNRS Interacting Particle Systems and applications* workshop.
- Sep. 2019 Université de Cergy-Pontoise, *Mathematical Physics Workshop*.
- July 2019 Mathematical institute of the Serbian Academy of Sciences and Arts, Belgrade, Serbia, *Mathematical Physics Week*.
- May 2019 IMJ-PRG, Sorbonne Université, Paris, *Séminaire de Systèmes Dynamiques*.
- Apr. 2019 Institut de Mathématiques de Toulouse, Université Paul Sabatier, Toulouse, *Séminaire de Probabilités*.
- Mar. 2019 Institut Fourier, Université Grenoble Alpes, *Séminaire de Probabilités*.
- Mar. 2019 Institut Denis Poisson, Université d'Orléans, *Séminaire Orléans*.
- Feb. 2019 Université de Bordeaux, conférence du GDR *Dynamique quantique*.
- Feb. 2019 Université Paris Descartes *Séminaire de probabilités du MAP5*.
- Jan. 2019 LPSM, Sorbonne Université, Paris, *Séminaire de Probabilités*.
- Dec. 2018 Université Paris-Dauphine, *Séminaire du CEREMADE Analyse-Probabilités*.
- Nov. 2018 Duke University, Durham, *Applied Math And Analysis Seminar*.

- Nov. 2018 CRM, Université de Montréal, *Entropic Fluctuation Relations in Mathematics and Physics* workshop.
- July 2018 International Congress of Mathematical Physics (ICMP) 2018, Montreal, contributed talk.
- June 2018 Université Paris Diderot, *Stochastic Problems in Mathematical Physics and Economics*
- Mar. 2018 Centre de Physique Théorique, Marseille, *Séminaire Systèmes dynamiques quantiques et classiques*.
- Mar. 2018 Département de Mathématiques d'Orsay, Université Paris-Sud, *Séminaire de Probabilités et Statistique*.
- Mar. 2018 LPSM, Sorbonne Université, Paris, *Séminaire de Théorie Ergodique*.
- Mar. 2018 Institut de mathématiques, Université de Neuchâtel, *Rencontres de mathématiques*.
- Feb. 2018 Laboratoire J.A. Dieudonné, Université de Nice Sophia Antipolis, *Séminaire de Probabilités et Statistiques*.
- Feb. 2018 LPSM, Université Paris Diderot, *Groupe de travail Modélisation*.
- Jan. 2018 Université de Cergy-Pontoise, *Séminaire Géométrie, EDP et Physique Mathématique*.
- Oct. 2017 Université Paris Diderot, *Journées de dynamique*.
- Jul. 2017 McGill University, Montreal, *Working Seminar in Mathematical Physics*.
- June 2017 University of British Columbia, Vancouver, PIMS-CRM Summer School in Probability.
- Apr. 2017 University of Massachusetts Amherst, Department of Mathematics & Statistics.
- Apr. 2017 Boston University, Department of Mathematics & Statistics, *Dynamical Systems Seminar*.
- Dec. 2016 University of Geneva, Theoretical Physics Department, *Mathematical Physics Seminar*.
- Sep. 2016 McGill University, Montreal, *Working Seminar in Mathematical Physics*.
- June 2016 Institut Henri Poincaré, Paris, *Stochastic Problems in Mathematical Physics and Economics Seminar*.
- Oct. 2015 University of Geneva, Section of Mathematics, *Mathematical Physics Seminar*.
- Oct. 2015 Université Claude Bernard Lyon 1, *Séminaire de probabilité*.
- July 2015 Pontificia Universidad Católica de Chile, *Young Researchers Symposium*.
- Mar. 2015 Université de Cergy-Pontoise, *Non-equilibrium Statistical Mechanics of Stochastic Systems* Conference. 4-hour minicourse: *Non-equilibrium steady states for classical chains of rotors/oscillators*.
- Oct. 2014 ETH Zurich, *Mathematical Physics and Quantum Mechanics* Workshop.

Languages

- FRENCH: Mother tongue
 ENGLISH: Fluent (spoken and written)
 GERMAN: Basic knowledge (spoken and written)

Non-academic professional experience

- 2008 - 2011 Design and implementation of automated importation and deduplication algorithms for bibliographic citations, *Infoscience* services, EPFL.
- 2005 - 2007 Publication of articles in the Swiss general-public newspaper *Le Temps*.
- 2001 - 2017 Development, maintenance, and publication of technical articles on the website www.cuk.ch.
- 2001 - 2012 Web development for several Swiss companies and non-profit organizations.