

# Curriculum Vitae

**Julien Berestycki**

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## Employment history

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- 2024- Department of Statistics, University of Oxford - Professor of Probability and Statistics - Tutorial fellow at Magdalen College
- 2014 - 2024 Department of Statistics, University of Oxford - Associate Professor of Probability and Statistics - Tutorial fellow at Magdalen College
- 2007 2014 Université Pierre et Marie Curie (Paris VI) - Assistant Professor
- 2004 2007 Université de Provence (Aix-Marseille) - Assistant Professor
- 2002 2004 Université de Paris X Nanterre - ATER (teaching position for PhD students)

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## Editorial and administrative roles

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- 2020–2025 Director of Graduate studies (Statistics Department, Oxford)
- Since 2022 Editor in chief of *Acta Applicandae Mathematica*
- 2015-22 Associate Editor *Acta Applicandae Mathematica*
- 2011-2014 Conseil Scientifique de l'UPMC (elected)
- 2011-2014 CNU (National Council of Universities)

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## Graduate students (◦) and Research Associates (●)

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- Zhiqi Zhao (started Oct. 2025)
- Gabriel Flath (started Oct. 2022)
- Jacob Merceer (started Oct. 2022)
- David Goldbach (2021-2025)
- Thomas Tendron (2019-2023)
- Quan Shi (2017 - 2018)
- Roman Stasinski (2016-2020)
- Charline Smadi Lassere (2015 - 2016)
- Pierre-Antoine Corre (2012 - 2017) Processus de branchements et graphe d'Erdős Rényi
- Cyril Labbé (2010-2013) Flots stochastiques et représentation lookdown.
- Clara Fittipaldi, (Co-advisor with Joaquin Fontbona - U. Chile)(2011 - 2014)
- Matthew Roberts (2011 - 2012)

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## Publications

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- [1] *Ranked Fragmentations* **ESAIM Probab. Statist.** **6** (2002) p.157. Journal
- [2] J. Berestycki *Multifractal Spectra of Homogeneous Fragmentations* **J. Statist. Phys.** **113** (2003) no. 3-4, 411-430. Journal
- [3] J. Berestycki *Exchangeable fragmentation-coalescence and their equilibrium measures* **Electron. J. Probab.** **9** (2004) ; 770-824. Journal
- [4] J. Berestycki , N Berestycki and J. Schweinsberg *Beta-coalescents and continuous stable random trees* **Ann. Probab.** **35** (2007), 1835-1887. Journal
- [5] J. Berestycki , N Berestycki and J. Schweinsberg *Small-time behavior of beta coalescents* **Ann. Inst. H. Poincaré Probab. Statist.** **44** (2008), 214-238. Journal
- [6] J. Berestycki and N Berestycki *Kingman coalescent and the Brownian excursion* **Alea** **6** (2009), 239–259. Journal
- [7] J. Berestycki and V. Bansaye *Large deviations for branching process in random environment* **Markov Process. Related Fields.** **15** (2009), no. 4, 493–52. arXiv
- [8] J. Berestycki, J. Bertoin, B. Haas and G. Miermont *Quelques Aspects Fractals des Fragmentations Aléatoires* **Panoramas et Synthèses**, **32** (2010).
- [9] J. Berestycki , N Berestycki and V. Limic *The  $\Lambda$ -coalescent speed of coming down from infinity* **Ann. Probab.** **38** (2010), no. 1, 207–233.
- [10] J. Berestycki, E. Brunet, J.W. Harris and S.C. Harris *The almost-sure population growth rate in branching Brownian motion with a quadratic breeding potential* **Stat. Pro. Letters.** **80** (2010), (17-18), pp. 1442-1446.
- [11] J. Berestycki , S.C. Harris and A. Kyprianou *Traveling waves and fragmentation* **Ann. Appl. Probab.** **21** (2011), no. 5, 1749-1794.
- [12] J. Berestycki, A. Kyprianou and A. Murillo *The prolific backbone for supercritical super-diffusions* **Stochastic Process. Appl.** **121** (2011) no. 6, 1315-1331.
- [13] J. Berestycki , N Berestycki and J. Schweinsberg *Survival of near-critical branching Brownian motion* **J. Statist. Phys.** **143** (2011), no. 5, 833-854. Journal
- [14] J. Berestycki , N Berestycki and J. Schweinsberg *The genealogy of branching Brownian motion with absorption* **Ann. Probab.** Vol. 41, Number 2 (2013), 527-618. Journal
- [15] E. Aidekon, J. Berestycki, E. Brunet and Z. Shi *The branching Brownian motion seen from its tip* **Probab. Theory Related Fields.** Vol. 157, Issue 1 (2013), Page 405-451. Journal
- [16] J. Berestycki , N Berestycki and V. Limic *Asymptotic sampling formulae for  $\Lambda$ -coalescents* **Ann. Inst. H. Poincaré Probab. Statist.** Vol. 50, No. 3 (2014), 715-731 Journal
- [17] J. Berestycki , N Berestycki and V. Limic *A small-time coupling between  $\Lambda$ -coalescents and branching processes* **Ann. Appl. Probab.** Vol. 24 (2) (2014) Journal
- [18] J. Berestycki, L. Doering, L. Mytnik and L. Zambotti *On Exceptional Times for generalized Fleming-Viot Processes with Mutations* **Stochastic Partial Differential Equations : Analysis and Computations** Vol. 2 (1) (2014) Journal
- [19] J. Berestycki, L. Doering, L. Mytnik and L. Zambotti *Hitting properties and non-uniqueness for SDEs driven by stable processes* **Stochastic Process. Appl.** Vol. 125 (3) (2015). Journal
- [20] J. Berestycki, E. Brunet, S.C. Harris and M. Roberts *Growth rates of the Population in a Branching Brownian motion with an inhomogeneous breeding potential* **Stochastic Process. Appl.** Vol. 125 (5) (2015)
- [21] J. Berestycki, E. Brunet and Z. Shi *The number of accessible paths in the hypercube* **Bernoulli** Vol. 22 (2) (2016). Journal
- [22] J. Berestycki , N Berestycki and J. Schweinsberg *Critical branching Brownian motion with absorption : survival probability* **Proba. Theory Related Fields.** Vol. 160, no. 3-4 (2014). Journal
- [23] J. Berestycki , N Berestycki and J. Schweinsberg *Critical branching Brownian motion with absorption : particle configurations* **Ann. Inst. H. Poincaré Probab. Statist.** Vol. 51, Number 4 (2015) Journal

- [24] J. Berestycki, E. Brunet and Z. Shi *Accessibility percolation with back-steps* **ALEA Lat. Am. J. Probab. Math. Stat.** 14, (2017). Journal
- [25] J. Berestycki, M.C. Fittipaldi and J. Fontbona *Ray-Knight representation of flows of branching processes with competition by pruning of Lévy trees* **Proba. Theory Related Fields.**, 2018, Volume 172, pp 725–788 (2018) Journal
- [26] J. Berestycki, E. Brunet, S.C. Harris and M. Roberts *Vanishing corrections for the position in a linear model of FKPP fronts* **Comm. Math. Phys** 349 (3),(2017) Journal.
- [27] J. Berestycki, E. Brunet, S.C. Harris and P ; Milos *Branching Brownian motion with absorption and the all-time minimum of branching Brownian motion with drift* **Journal of Functional Analysis** Vol. 273, (6) (2017). Journal
- [28] J. Berestycki, E. Brunet and B. Derrida *Exact solution and precise asymptotics of a Fisher-KPP type front*, **Journal of Physics A : Mathematical and Theoretical**, Volume 51, Number 3 (2017). Journal
- [29] L. Addario-Berry, J. Berestycki and S. Penington, *Branching Brownian motion with decay of mass and the non-local Fisher-KPP equation*, **Comm. Pure Appl. Math.** Vol. 72 : 2487-2577 (2019). Journal
- [30] J. Berestycki, E. Brunet and B. Derrida *A new approach to computing the asymptotics of the position of Fisher-KPP fronts*, **EPL Europhys. Letters**, 2018 Vol. 122-1 Journal
- [31] J. Berestycki, E. Brunet and S. Penington *Global existence for a free boundary problem of Fisher-KPP type*, **Nonlinearity**. Vol. 32, Number 10. (2019) Journal
- [32] J. Berestycki, E. Brunet, B. mallein and A. Cortines, *A simple backward construction of Branching Brownian motion with large displacement and applications* **Ann. Inst. H. Poincaré**, 58(4) : 2094-2113 (2022) Journal
- [33] R. Stasinski, J. Berestycki, B. Mallein, *Derivative martingale of the branching Brownian motion in dimension  $d > 1$*  **Ann. Inst. H. Poincaré** Vol. 57, No. 3, 1786–1810 2021 Journal
- [34] J. Berestycki, E. Brunet, J. Nolen and S. Penington, *A free boundary problem arising from branching Brownian motion with selection* **Trans. Amer. Math. Soc.** 374 (2021), 6269-6329. Journal
- [35] . J. Berestycki , E. Brunet, J. Nolen and S. Penington, *Brownian bees in the infinite swarm limit* **Ann. Probab.** 50 (6) 2133 - 2177, November 2022.
- [36] J. Berestycki, E. Brunet, C. Graham, L. Mytnik, J.-M. Roquejoffre, L. Ryzhik, *The distance between the two BBM leaders* **Nonlinearity**. Vol. 35, No. 4 (2022) Link
- [37] J. Berestycki, Y. Kim, E. Lubetzky, B. Mallein and O. Zeitouni, *The extremal point process of branching Brownian motion in  $\mathbb{R}^d$* . **Ann. Probab.** 52 (3), (May 2024) , pgs 955-982 Link
- [38] J. Berestycki, C. Graham, Y. Kim, and B. Mallein *KPP traveling waves in the half-space* **Commun. Math. Phys.** Vol. 406, 275 (2025). Link
- [39] J. Berestycki, J. Liu, B. Mallein, and J. Schweisnberg *Phase transition of the consistent maximal displacement of branching Brownian motion* To appear in **Ann. Inst. H. Poincaré** arXiv
- [40] J. Berestycki, J. Liu, B. Mallein, and J. Schweisnberg *The Yaglom limit for branching Brownian motion with absorption and slightly subcritical drift* To appear in **Ann. Inst. H. Poincaré** arXiv
- [41] J. Berestycki, N. Gantert, D. Geldbach, and N. Gantert *Biased branching random walks on Bienaymé–Galton–Watson trees* Preprint arXiv
- [42] J. Berestycki, O. Tough *Selection principle for the N-BBM* Preprint arXiv
- [43] J. Berestycki, D. Geldbach, and M. Pain *Polynomial slowdown in space-inhomogeneous branching Brownian motion* Preprint arXiv
- [44] J. Berestycki, S. Penington, and O. Tough *Convergence and front position for an FKPP-type free boundary problem* Preprint arXiv

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## Selected Invited Lectures

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- 01/2026 Conference on Random Walks and Related Fields, TSIMF - Sanya, China. Jan.26-30, 2026 [Link](#)
- 01/2026 Winter school Academy of Mathematics and System Science, CAS, Beijing China. Branching particle systems with selection and free boundary problems.
- 03/2023 Workshop *Random discrete structures*, Münster, Germany. [Link](#)
- 03/2023 Workshop on *Branching Processes and Reaction-Diffusion Equations*, Brin Mathematics Research Center of the University of Maryland
- 08/2018 Workshop *Interacting Particle Systems and Parabolic PDEs*; Banff BIRS, Canada
- 07/2018 Workshop *Stochastic models of evolving populations : from bacteria to cancer*, Edinburgh ICMS, UK
- 07/2018 ICMP Satellite workshop *Challenges in probability and mathematical physics*, Montreal Canada
- 05/2018 Workshop *The fifth Bath-Beijing-Paris meeting*, Beijing, China.
- 09/2017 Conference *Modern perspectives of branching in probability*, Münster, Germany
- 06/2017 *Symposium on Probability Theory and Random Processes*, St Petersburg, Russia
- 05/2017 Conference *Probability and Analysis*, Bedlewo, Poland
- 505/2017 Workshop *Workshop on Branching Processes and Related Topics*, Beijing, China
- 03/2015 Workshop *Random Graphs, Random Trees and Applications*, Newton Institute, Cambridge
- 08/2014 18th Brazilian School of Probability. Mini-course. Topics on Branching Brownian motion

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## Organisation of conferences

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- 2022 Workshop : *Branching systems, reaction-diffusion equations and population models* - May 2-13, 2022, CRM, Montreal. [Link](#)
- 2018 *Interacting Particle Systems and Parabolic PDEs*, Banff BIRS, Canada [Link](#)
- 2018 Bath-Beijing-Paris meeting on branching structures, Beijing, China [Link](#)
- 2017 Invited session à SPA2017, Moscow, Russia
- 2016 Branching Structures : A Bath-Paris Meeting, Institut Henri Poincaré, Paris
- 2014 *Front Propagation and Particle Systems*, Banff BIRS, Canada [Link](#)
- 2014 Branching Structures : A Paris-Bath Meeting, Bath, UK
- 2011 Branching Structures : A Bath-Paris Meeting, Institut Henri Poincaré, Paris

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## Invitations

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- 2022 5 months Simons-CRM Professor position at the CRM, Montreal (Jan-July 2022)
- 2012–2014 visiting Professor at NYU–Abu Dhabi (spring term).
- 2008-2009 Royal Society Visiting Researcher, University of Bath, UK.

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## Teaching (selection)

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- 2014- Oxford University. Foundations of Statistical Inference (Part B - 3rd year). Simulation and Statistical Programming (Part A - 2nd year). Tutorial fellow at Magdalen college (first and second year : probability, statistics, linear algebra, group theory, graph theory).
- 2013-2014 NYU–Abu Dhabi. Calculus with applications, Ordinary Differential Equations, Analysis 2
- 2007-2014 UPMC. Course director for the Master “IFMA” (Financial Engineering and Stochastic Models) Courses : Stochastic Calculus, Advanced finance, Introduction to financial markets, Option pricing & hedging in complete markets. Various courses in Probability and analysis at all levels from 1st to 5th year. *Branching random walks and the F-KPP equation*. Advanced probability course for M2 students of the “Probability and Applications” Master.
- 2008-2009 École Polytechnique, Paris. Professeur chargé de cours (tutorial classes). Probability, 1st and 2nd year.
- 2004-2007 Univ. Provence. (now Univ. Aix-Marseille) Statistics (M1 course for distance learning), Statistical modeling for social sciences (hands-on course with SAS software).

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## Consulting and private sector

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- 2004-2007 Advised the french delegation for the OSPAR (convention for the protection of the Marine Environment of the North East Atlantic) on statistical methodology.
- 2006-2017 Consultant for MOMA (Modélisation, Mesures et Applications). Projects include Electricity markets forecasting, industrial quality control.
- 2002-2004 Worked for Banque CPR and Credit Agricole as in house mathematician.