

Curriculum Vitae

Julien Berestycki
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Academic Positions

since 2014 Department of Statistics, University of Oxford - Associate Professor in Probability and Statistics
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)

Education

03/12/10 Thèse d'habilitation à diriger des recherches : *Structures aléatoires de branchement et applications en génétique des populations*
1998 2000 ENSAE (Ecole Nationale de la Statistique et de l'Administration Economique) and DEA in mathematics (probability) at Université Pierre et Marie Curie
2000 2003 PhD Université Pierre et Marie Curie Fragmentations et coalescences homogènes, (Supervisor : Jean Bertoin)

Administrative duties and other Services

Since 2015 Associate Editor for Acta Applicandae Mathematica
2011-2014 Conseil Scientifique de l'UPMC (elected)
2011-2014 CNU (National Council of Universities)
2012-2014 In charge of the Mathematics part of entrance exam (Life Sciences major) at École Normale Supérieure

PhD (○) and postdoc (●) supervisions

- Quand Shi (2017 - 2018)
- Roman Stasinski (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)

Publications

- [1] *Ranked Fragmentations* **ESAIM Probab. Statist.** **6** (2002) p.157.
- [2] J. Berestycki *Multifractal Spectra of Homogeneous Fragmentations* **J. Statist. Phys.** **113** (2003) no. 3-4, 411-430.
- [3] J. Berestycki *Exchangeable fragmentation-coalescence and their equilibrium measures* **Electron. J. Probab.** **9** (2004) ; 770-824.
- [4] J. Berestycki , N Berestycki and J. Schweinsberg *Small-time behavior of beta coalescents* **Ann. Inst. H. Poincaré Probab. Statist.** **44** (2008), 214-238.
- [5] J. Berestycki , N Berestycki and J. Schweinsberg *Beta-coalescents and continuous stable random trees* **Ann. Probab.** **35** (2007), 1835-1887.
- [6] J. Berestycki and N Berestycki *Kingman coalescent and the Brownian excursion* **Alea** **6** (2009), 239-259.
- [7] J. Berestycki and V. Bansaye *Large deviations for branching process in random environment* **Markov Process. Related Fields.** **15** (2009), no. 4, 493-52.
- [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 Λ -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. Land-ters.** **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 *The genealogy of branching Brownian motion with absorption* **Ann. Probab.** Vol. 41, Number 2 (2013), 527-618.
- [14] J. Berestycki , N Berestycki and J. Schweinsberg *Survival of near-critical branching Brownian motion* **J. Statist. Phys.** **143** (2011), no. 5, 833-854.
- [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.
- [16] J. Berestycki , N Berestycki and V. Limic *Asymptotic sampling formulae for Λ -coalescents* **Ann. Inst. H. Poincaré Probab. Statist.** Vol. 50, No. 3 (2014), 715-731
- [17] J. Berestycki , N Berestycki and V. Limic *A small-time coupling bandween Λ -coalescents and branching processes* **Ann. Appl. Probab.** Vol. 24 (2) (2014)
- [18] 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)
- [19] 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)
- [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).
- [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)
- [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)

- [24] J. Berestycki, E. Brunet and Z. Shi *Accessibility percolation with back-steps* **ALEA Lat. Am. J. Probab. Math. Stat.** 14, (2017).
- [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.**, Online first. (2017)
- [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).
- [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).
- [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).
- [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.** To appear.
- [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 Volume 122, N.1
- [31] J. Berestycki, E. Brunet and S. Penington *Global existence for a free boundary problem of Fisher-KPP type*, To appear in **Nonlinearity**.
- [32] J. Berestycki, E. Brunet, B. mallein and A. Cortines, *Extremes of branching Ornstein-Uhlenbeck processes* Preprint,

Selected Invited Lectures

- 09/18 Workshop *Branching-type structures*, Zurich, Suisse
- 08/18 Workshop *Interacting Particle Systems and Parabolic PDEs*; Banff BIRS, Canada
- 07/18 Workshop *Stochastic models of evolving populations : from bacteria to cancer*, Edinburgh ICMS, UK
- 07/18 ICMP Satellite workshop *Challenges in probability and mathematical physics*, Montreal Canada
- 05/18 Workshop *The fifth Bath-Beijing-Paris meeting*, Beijing, China.
- 04/18 Workshop *Branching Processes and their Applications (WBPA18)* , Badajoz, Espagne
- 09/2017 Conference *Modern perspectives of branching in probability*, Münster, Germany
- 06/2017 Conference *Symposium on Probability Theory and Random Processes*, St Petersburg, Russia
- 05/2017 Conference *Probability and Analysis*, Bedlewo, Poland
- 05/2017 Workshop *Workshop on Branching Processes and Related Topics*, Beijing, China
- 03/2017 Spring School *Probability in mathematics and physics*, Darmstadt, Germany
- 09/2015 Workshop *Mathematical Approaches to Evolutionary Trees* Imperial college
- 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
- 03/2014 Toulouse, *Mathematical biology, particle systems and reaction-diffusion*
- 10/2013 Montréal, CRM. Workshop “Coalescent Theory : New Developments and Applications”

Selected invited Seminars

Université Pierre et Marie Curie (10/17), Collegio Carlo Alberto, Torino (10/17), Warwick (4/16), Institut Fourier-Grenoble (12/15), Collège de France (10/13), Rhein-Main-Kolloquiums Stochastik (05/11), Technion institute Haifa Seminar + mini course (12/11), University of Cambridge (03/11), Kac Seminar, Utrecht University (10/10)

Organisation of conferences

- 2018 *Interacting Particle Systems and Parabolic PDEs*, Banff BIRS, Canada
2018 Bath-Beijing-Paris meeting on branching structures, Beijing, China
2017 Invited session à SPA2017, Moscou, Russie
2016 Branching Structures : A Bath-Paris Meeting, Institut Henri Poincaré, Paris
2014 *Front Propagation and Particle Systems*, Banff BIRS, Canada
2014 Branching Structures : A Paris-Bath Meeting, Bath, UK
2011 Branching Structures : A Bath-Paris Meeting, Institut Henri Poincaré, Paris

Invitations

- 2012–2014 visiting Professor at NYU–Abu Dhabi (spring term).
2008-2009 Royal Society Visiting Researcher, University of Bath, UK.

Teaching (selection)

- 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. In charge of the Master programme “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).