

Pascal Maillard

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Education and academic positions

- 2014- **Assistant Professor (Maître de Conférences)**, Département de Mathématiques, Université Paris-Sud, France
- Feb-Jul 2018 **Simons Research Fellow**, CRM-CNRS, Université de Montréal, Canada
- 2012-14 **Post-doctoral fellow**, Department of Mathematics, Weizmann Institute of Science, Israel
- 2009-12 **PhD in Mathematics** from Université Pierre et Marie Curie, Paris (UPMC). Thesis title: *Branching Brownian motion with selection*. Supervisor: Zhan Shi. Grade: *très honorable* (only grade possible at this university)
- 2008-09 MSc in Mathematics from UPMC, grade: very good (*très bien*, best possible)
- 2007-08 Exchange student (ERASMUS programme) in Mathematics and Computer Science at Univerza v Ljubljani, Slovenia, average grade: 10/10
- 2007 Research Assistant, Universität Karlsruhe (TH), Institut for Theoretical Informatics (3 months)
- 2004-07 Studies of Computer Science and Mathematics at Universität Karlsruhe (TH), Germany. Degrees: *Vordiplom Informatik* and *Vordiplom Mathematik* (2006, both), grades: 1.1 and 1.1 (best possible: 1.0)
- 2004 German A levels (*Abitur*), grade: 1.0 (best possible)

Academic responsibilities and grants

- May 2016, **Conception and organization of the yearly conference “Les probabilités de demain”**
May 2017, (www.lesprobabilitesdedemain.fr). This conference gives PhD students in probability from
May 2018 the Paris area the opportunity to present their work to senior researchers.
Organizational roles: Creating the basic concept, writing a proposal and submitting it to potential supporting institutions, setting up and heading a team, managing communication at all levels, managing contracts with external service providers (food, filming), taking part in the conception of poster, flyer and website, overseeing and taking part in the basic organizational work (schedule, printed program, badges, gifts,...)
- 2016-2017 Organization of a weekly internal seminar on “Math tricks” (*trucs & astuces*) for the Probability and Statistics group, Département de Mathématiques, Université Paris-Sud

- 2016 Member of the year-long CNRS PEPS project “Graphes aléatoires” (coordinator Igor Kortchemski), aid in writing project proposal.
- 2015- Member of the ANR Young Researchers Project LIOUVILLE (coordinator Christophe Garban), aid in writing project proposal
- 2014- Member of the ANR GRAAL project (coordinator Thomas Duquesne)
- 2014- Member of the editorial board of the website of Jacques Hadamard Mathematics Library, Département de Mathématiques d'Orsay
- 2011-12 Representative of the PhD students at the probability lab of UPMC.
- 2009-12 Member of the ANR MEMEMO et MEMEMO 2 projects (coordinatrice Fabienne Castell)
- 2010-11 Representative of the Paris members of the German Academic Foundation (*Studienstiftung des dt. Volkes*)
- 2007 Jury member of the national Mathematic Olympiad in Karlsruhe

Distinctions and grants

- 2018 Simons Fellowship grant + CNRS grant (*délégation*) for six-months stay at Université de Montréal, Canada
- 2015 Excellence grant from the French Ministry of Education (*PEDR, prime d'encadrement doctoral et de recherche*)
- 2012-14 Post-doctoral grant, Weizmann Institute of Science, Israel
- 2009-12 Thesis grant, French Ministry of Education
- 2004-09 Scholarship from the German Academic Foundation (*Studienstiftung des dt. Volkes*)
- 2004 Winner of the German National Computer Science Contest (*Bundeswettbewerb Informatik*)
- 2001,02 Finals of the Baden-Württemberg Mathematics Contest (*Landeswettbewerb Mathematik Baden-Württemberg*)

Publications

In preparation:

M. Pain, P. Maillard. Fluctuations of the Gibbs measure of branching Brownian motion at critical temperature.

J. Berestycki, P. Maillard, J. Schweinsberg. Yaglom-type limit theorems for branching Brownian motion with absorption.

P. Maillard, E. Paquette. Choices and intervals: asymptotic equidistribution.

Submitted:

L. Chen, N. Curien, P. Maillard. The perimeter cascade in critical $O(n)$ model on random quadrangulations. ArXiv:1702.06916

Accepted or published:

P. Maillard (2018+). The λ -invariant measures of subcritical Bienaymé–Galton–Watson processes. *arXiv:1508.00845*, to appear in *Bernoulli*

P. Maillard (2016). The maximum of a tree-indexed random walk in the big jump domain. *ALEA, Lat. Am. J. Probab. Math. Stat.*, vol. 13, no. 2, 545–561

P. Maillard, R. Rhodes, V. Vargas, O. Zeitouni (2016). Liouville heat kernel: regularity and bounds. *Ann. I.H.P. Prob. Stat.*, 52, no. 3, 1281–1320

- O. Hénard, P. Maillard (2016). On trees invariant under edge contraction. *Journal de l'Ecole Polytechnique* 3, 365–400
- P. Maillard, E. Paquette (2016). Choices and intervals. *Israel Journal of Mathematics* 212, no. 1, 337–384
- P. Maillard, O. Zeitouni (2016). Slowdown in branching Brownian motion with inhomogeneous variance. *Ann. Inst. H. Poincaré Probab. Statist.* 52, no. 3, 1144–1160
- P. Maillard (2016). Speed and fluctuations of N -particle branching Brownian motion with spatial selection. *Probab. Th. Rel. Fields*, 166, no. 3, 1061–1173
- J. Bérard, P. Maillard (2014). The limiting process of N -particle branching random walk with polynomial tails. *Electr. J. Probab.*, 19, no. 22, 1–17
- I. Benjamini, P. Maillard (2014). Point-to-point distance in first passage percolation on $(\text{tree}) \times \mathbb{Z}$. *Geometric Aspects of Functional Analysis, Israel Seminar (GAFA) 2011-2013*, Lecture Notes in Mathematics, Vol. 2116, 47–51, Bo'az Klartag, Emanuel Milman (eds.), Springer.
- P. Maillard, O. Zeitouni (2014). Performance of the Metropolis algorithm on a disordered tree: the Einstein relation. *Annals of Applied Probability* 24, no. 5, 2070–2090
- P. Maillard (2013). The number of absorbed individuals in branching Brownian motion with a barrier. *Annales de l'I.H.P., Probab. Stat.*, 49, 2, 428–455
- P. Maillard (2013). A note on stable point processes occurring in branching Brownian motion. *Electr. Comm. Probab.*, 18, no. 5, 1–9
- P. Maillard (2012). Mouvement brownien branchant avec sélection. Thèse de doctorat, Université Pierre et Marie Curie, *arXiv:1210.3500*
- R. Görke, P. Maillard, A. Schumm, C. Staudt, D. Wagner (2013). Dynamic graph clustering combining modularity and smoothness. *J. Exp. Algorithmics*, 18, 1, 1.5:1.1–1.5:1.29
- R. Görke, P. Maillard, C. Staudt, D. Wagner (2010). Modularity-driven clustering of dynamic graphs. In P. Festa, editor, *Experimental Algorithms*, volume 6049 of Lecture Notes in Computer Science, 436–448. Springer Berlin / Heidelberg

Participation at conferences and summer schools

Date	Name	Invited	Talk
July 16-27, 2018	CIMPA School “Geometry and scaling of random structures”, Buenos Aires	Yes	Yes
May 14-18, 2018	Paris-Bath-Beijing branching structures V, Beijing	Yes	Yes
Jul 13-14, 2017	Workshop “Phase transitions on random trees”, Dortmund	Yes	Yes
Jun 6-9, 2017	Conference “Statistical mechanics, random planar geometry and interacting random walks”, Lyon	Yes	No
May 29 – Jun 2, 2017	Oberwolfach workshop “Stochastic Analysis: Geometry of Random Processes”	Yes	No
Jul 7-8, 2016	Journées ANR GRAAL, Nancy	Yes	Yes
Sep 12-23, 2016	Summer School “Quantum integrable systems, conformal field theories and stochastic processes”, Cargèse	Yes	Yes
Jun 27-29, 2016	4th Paris-Bath branching structures meeting, IHP, Paris	Yes	Yes
Jun 6-10, 2016	Workshop “Random trees and maps”, CIRM, Luminy	Yes	No
Mar 29-30, 2016	ANR LIOUVILLE meeting, Lyon	Yes	Yes
Mar 9-11, 2016	Workshop “Stochastic PDE's, Large Scale Interacting Systems and	Yes	Yes

	Applications to Biology”, Université Paris-Sud		
Jul 13-17, 2015	Invited Speaker at “Stochastic Processes and their Applications” (SPA), Oxford	Yes	Yes
Jun 1-2, 2015	Journées ANR GRAAL, Bordeaux	Yes	No
Feb 9-13, 2015	“Topics in low dimensional statistical mechanics“, Les Diablerets	Yes	Yes
Jun 16-20, 2014	“Analysis of Algorithms 2014”, UPMC, Paris	No	Yes
Mar 17-21, 2014	“Thematic school on mathematical biology, particle systems and reaction-diffusion”, Université de Toulouse	Yes	No
Jun 10-14, 2013	“Branching diffusions and Gaussian free fields in physics, probability and number theory”, Workshop, CIRM, Luminy	Yes	Yes
May 2, 2013	Students Probability Day IV, Weizmann Institute of Science	Yes	Yes
Apr 21-27, 2013	Oberwolfach workshop “Extremes in Branching Random Walk and Branching Brownian Motion”	Yes	Yes
Mar 5-8, 2013	“Genetic models and Quasi-stationarity”, Workshop, CIRM, Luminy	Yes	Yes
Jul 8-21, 2012	Ecole d’été de St Flour en Probabilités	No	Yes
Jun 18-29, 2012	“St Petersburg Summer School in Probability and Statistical Physics”	Yes	Yes
Jun 11-15, 2012	Conférence ANR MEMEMO 2, Agay	Yes	Yes
Apr 16-20, 2012	Colloque des Jeunes Probabilistes et Statisticiens, CIRM, Luminy	No	Yes
Sep 27 – Oct 7, 2011	BMS Summer School, Berlin	No	Yes
Sep 15-16, 2011	Bath-Paris meeting on branching structures, Paris	Yes	No
Jun 20-24, 2011	Stochastic Processes and their Applications (SPA), Oaxaca	No	No
Mar 14-18, 2011	Young European Probabilists Meeting, EURANDOM, Eindhoven	No	No
Sep 14-15, 2010	Paris-Bath meeting on branching structures, Bath	Yes	No
Jun 21 – Jul 10, 2010	PIMS Summer School, University of Washington	No	Yes
May 10-14, 2010	Conférence ANR MEMEMO, CIRM, Luminy	Yes	No

Invited talks at seminars

2018	Probability seminars: McGill University
2017	Probability seminars: University of Bath, Université de Strasbourg, Ecole Polytechnique
2016	Probability seminars: Université Paris-Nanterre ; Université Paris 13 Journées Cartes, IHES
2015	Probability seminars: University of Oxford ; LPMA ; Universität Zürich GdT de l’équipe Modélisation Stochastique, LPMA
2014	Probability seminars: Weizmann Institute of Science, Tel Aviv University et Ben Gurion University, Israël ; École Polytechnique ; Université Lyon 1 ; Université Paris Sud ; Université de Rennes 1 ; Université de Lorraine ; Queen Mary University London ; Ecole Normale Supérieure
2013	Probability seminars: Tel Aviv University and Weizmann Institute of Science, Israël ; GdT Processus Stochastiques, LPMA
2012	Probability seminars: Technion and Weizmann Institute of Science, Israël ; Universität Bonn, Allemagne ; University of Cambridge, Royaume-Uni ; Université de Versailles ; Université

Lyon 1 ; Université Paris 13

2011 Informal Seminar, Department of Statistics, University of Oxford, Royaume-Uni ; GdT
Processus Stochastiques, LPMA

Research-oriented teaching

- 2017 Master 2 lecture “Branching random walks and multiplicative cascades” (20h) at Université Paris-Sud
- 2016 “Introduction to branching random walks” (2h), ANR LIOUVILLE meeting (Lyon, Mar 29-30, 2016)
- 2013 Mini-lecture (2x2h), “Branching random walk with selection”, conference “Genetic models and Quasi-stationary”, CIRM, Luminy (Mar 5-8, 2013)
- 2012 Tutorials for Ofer Zeitouni’s lecture “Branching random walk and maxima of Gaussian Free Fields”, St Petersburg Summer School in Probability and Statistical Physics (Jun 18-29, 2012)

Other teaching experience

- 2017-18 Probability theory lecture for 3rd year students at Université Paris-Sud. Tutorials in Advanced Probability (4th year)
- 2014-17 Various tutorials for 2nd to 4th year students at Université Paris-Sud: Advanced Probability (4th year), Probability and Statistics (3rd year), Numerical methods in Analysis and Probability (3rd year), Probability for biologists (2nd year)
- 2009-12 Various tutorials for 1st to 3rd year students at Université Pierre et Marie Curie: Complex Analysis (3rd year), Probability (2nd and 3rd year), Calculus (1st year), Linear Algebra (1st year)

Supervision of students

- 2018- Julie Tourniaire (PhD thesis, together with Gaël Raoul), tentative title: *Dynamique d'interfaces en écologie : modèles déterministes et stochastiques*
- 2017- Pierre Boutaud (PhD thesis), tentative title: *Marches aléatoires branchantes : cas limites et hypothèses minimales*
- 2017 Pierre Boutaud (Master thesis)
Chenlin Gu (Research project/internship)
Alexis Kagan (Research project/internship, co-supervised with Olivier Hénard)
- 2016 Mladen Dimovski (Master thesis)
- 2015 Alban Goupil-Papa and Corentin Morandau (Research project/TER)
Pierre Boutaud and Jérémy Davail (Research project/TER)

Languages

German (native), French (native), English (fluent), Slovene (almost fluent)

Personal interests

Playing music (piano, guitar, singing, harmonica, electronic music production), bicycle tours