Louis-Pierre Arguin

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Research interests

Probability, Statistical Mechanics, Extreme Value Theory, Disordered Systems

Experience

Assistant Professor (tenure-track), Université de Montréal	2011-
Postdoctoral Researcher, Courant Institute, New York University	2008-2011
Postdoctoral Researcher, Weierstrass Institute, Berlin	2007-2008

Education

Ph.D. in Mathematics, Princeton University	2002-2007
M.Sc. in Physics, Université de Montréal	2001-2002
B.Sc. in Mathematics and Physics, Université de Montréal	1998-2001

Grants

FQRNT Établissement de Nouveaux Chercheurs 2012-2013
Project: *Étude des statistiques valeurs extrêmes des processus spatiaux branchants et de leur universlité*, $20,000/year

NSERC Discovery Grant 2012-2017
Project: *Spin Glasses and Extreme Value Statistics of Highly Correlated Gaussian Processes*, $20,000/year

Supervision

David Belius, Postdoctoral researcher, CRM Montréal	2013-
Roberto Persechino, Ph.D. Université de Montréal	2013-
Frédéric Ouimet, M.Sc. Université de Montréal	2013-
Jean-Sébastien Turcotte, M.Sc. Université de Montréal	2012-2013
Samuel April, M.Sc. Université de Montréal	2012-2013
Thesis title: Étude des maxima de champs gaussiens corrélés	
Daniel Lévesque, Undergraduate research, Université de Montréal	2012

Teaching (since 2010)

Undergraduate Probability, Université de Montréal	2013, 2014
Graduate Probability, Université de Montréal	2011, 2012
Stochastic Calculus, Université de Montréal	2013, 2014
Graduate Linear Algebra, New York University	2010

Conferences, Colloquia (Invited speaker)

Branching diffusions and Gaussian free field, Marseille CIRM	June 2013
Random Combinatorial Structures and Stat. Mech., Warwick	May 2013
Emerging trends in Probability, Max-Planck Institute, Leipzig	May 2013
Extremes in branching random walks, Oberwolfach	April 2013
Disorder in Probability and Statistical Mechanics, Modena	June 2012
Mathematical Challenges in Graphical Models, UCLA	January 2012
Colloque CRM-ISM de mathématiques, Montréal	January 2012
CMS Winter meeting 2012, Session Probability, Toronto	December 2011
35th SPA, Oaxaca	June 2011
Math Colloquium, University of Oregon	January 2011
Math Colloquium, University of Arizona	January 2011
Math Colloquium, McMaster University	February 2011
IMS Annual Meeting, Göteborg	August 2010
Mini-Course on Spin Glasses, FRUMAM Marseille	March 2010
Statistical Mechanics on Random Structures, BIRS Banff	November 2009
Order, Disorder and Double Disorder, Eurandom Eindhoven	August 2009
Disordered Systems: Spin Glasses, CRM Montreal	June 2009
Symposium in Mathematical Physics, Cergy-Pontoise	January 2009
Young European Probabilists V, Eurandom Eindhoven	March 2008
Workshop Particle Systems, Hausdorff Institute Bonn	November 2007

Probability Seminars

Georgia Tech, Université d'Ottawa, Indiana University	2013
New York University, Harvard University, University of Chicago	2012
City University of New York, University of Colorado, Boulder	2011
Cornell University, University of Toronto, University of Minnesota	2010
Bonn Universität, TU München	2009
Columbia University, Stanford University, Zürich Universität, New York University, University of Rochester	2008

Professional Activities

Member of the board of directors, Canadian Mathematical Society	2013-2017
Co-organizer of CRM-ISM Probability Seminar	2011-
Co-organizer of the CRM workshop *Random Trees*	2013
Co-organizer of the Probability session, CMS winter meeting	December 2012
Co-organizer of the workshop *Disordered Systems and Extreme Value Theory*, Hausdorff Institute, Bonn	September 2010

Member of the PhD thesis jury of: Moussa Kounta (UdeM 2012), Zied Ben Salah (UdeM 2012), Michael Damron (NYU, 2009)

Reviewer for: *Probability Theory and Related Fields, Annals of Probability, Annals of Applied Probability, Communications in Mathematical Physics, Journal of Statistical Physics, Electronic Journal of Probability, Electronic Communication in Probability, Annales de l'Institut Henri-Poincaré B, Journal of Mathematical Physics, Séminaire de Probabilités*

Peer-reviewed articles

19. (with O. Zindy) Poisson-Dirichlet Statistics for the extremes of a log-correlated Gaussian field, to appear in *Ann. Appl. Prob.* (2013)
18. (with N. Kistler, A. Bovier) An ergodic theorem at the frontier of branching Brownian motion, *Electron. Jour. Prob.* 18 (2013)
17. (with N. Kistler, A. Bovier) The Extremal Process of Branching Brownian Motion, to appear in *Prob. Th. Rel. Fields* (2012)
16. (with M. Damron) On the Number of Ground States in the Edwards-Anderson Spin Glass Model, to appear in *Ann. Institut Henri-Poincaré B* (2011)
15. (with N. Kistler, A. Bovier) Poissonian Statistics in the Extremal Process of Branching Brownian Motion, *Ann. Appl. Prob.* 22 (2012)
14. (with Y. Saint-Aubin, H. Aurag) Behavior of the two-dimensional Ising model at the boundary of a half-infinite cylinder, *Can. J. Phys.* 89 (2011)
13. (with N. Kistler, A. Bovier) The Genealogy of Branching Brownian Motion, *Comm. Pure and Applied Math.* 64 (2011)
12. (with S. Chatterjee) Random Overlap Structures: Properties and Applications to Spin Glasses, *Prob. Th. Rel. Fields* 156 (2013)
11. (with M. Damron) Short-Range Spin Glasses and Random Overlap Structures, *J. Stat. Phys.* 143 (2010)
10. (with M. Damron, C. Newman, D. Stein) Uniqueness of Ground States for Short-Range Spin Glasses in the Half-Plane, *Comm. Math. Phys.* 300 (2010)
9. (with N. Kistler) On Small Perturbations of a Spin Glass System, *J. Stat. Phys.* 135 (2009)
8. (with Y. Saint-Aubin) Restricted partition functions of the 2D Ising model on the half-infinite cylinder, *J. Math. Phys.* 50 (2009)
7. (with M. Aizenman) On the Structure of Quasi-Stationary Competing Particle Systems, *Ann. Prob.* 37 (2009)
6. A Remark on the Infinite-Volume Gibs Measure of Spin Glasses, *J. Math. Phys.* 49 (2008)
5. Competing Particle Systems and the Ghirlanda-Guerra Identities, *Electron. Jour. Prob.* 13 (2008)
4. A dynamical characterization of Poisson-Dirichlet distributions, *Electron. Comm. Prob.* 12 (2007)
3. Spin Glass Computations and Ruelle Probability Cascades, *J. Stat. Phys.* 126 (2007)
2. Homology of Fortuin-Kasteleyn clusters of Potts models on the torus, *J. Stat. Phys.* 109 (2002)
1. (with Y. Saint-Aubin) Non-Unitary Observables in the 2d Critical Ising Model, *Phys. Lett. B541* (2002)

Submitted preprints

- (with O. Zindy) Poisson-Dirichlet Statistics for the extremes of the two-dimensional Gaussian free field, submitted to *Electron. Jour. Prob.* (2013)
- (with N. Kistler, A. Bovier) An ergodic theorem for the extremal process of branching Brownian motion, submitted to *Ann. Institut Henri-Poincaré B* (2012)