

January 2018

FIRAS RASSOUL-AGHA

Department of Mathematics
University of Utah
155 S 1400 E, Salt Lake City, UT 84112

Phone: (801) 585-1647 (Office)
Fax: (801) 581-4148 (Att: Firas)
E-Mail: friras@math.utah.edu

EDUCATION

Ph.D., January 2003 New York University, Courant Institute of Mathematical Sciences
M.S., May 1999 New York University, Courant Institute of Mathematical Sciences
Magistère, June 1996 École Normale Supérieure de Cachan, Paris
Agrégation, June 1996 École Normale Supérieure de Cachan, Paris

POSITIONS HELD

2014 - **Professor.** University of Utah, Department of Mathematics
Research interests: Probability theory, stochastic processes, random media, disordered systems, statistical mechanics, mathematical physics, stochastic climate and weather models, mathematical biology

2009 - 2014 **Associate Professor.** University of Utah, Department of Mathematics

2005 - 2009 **Assistant Professor.** University of Utah, Department of Mathematics

2004 - 2005 **Postdoctoral Researcher.** Ohio State Univ., Mathematical Biosciences Institute

2002 - 2004 **Visiting Assistant Professor.** Ohio State University, Department of Mathematics

1997 - 2002 **Research and Teaching Assistant.** New York University, Courant Institute

BOOKS, LECTURE NOTES, REVIEW ARTICLES, AND PROCEEDINGS

7. I. Corwin, M. Damron, J. Hanson, F. Rassoul-Agha, T. Seppäläinen, and P. Sosoe. Random growth models, 2018. Ed. by M. Damron, F. Rassoul-Agha, and T. Seppäläinen. Proceedings of the AMS. Forthcoming
6. F. Rassoul-Agha. Busemann functions, geodesics, and the competition interface for directed last-passage percolation. Lecture notes for the 2017 AMS short course on random growth models, 2017
5. M. Damron, F. Rassoul-Agha, T. Seppäläinen. Random growth models. Notices of the AMS, 63, 1004-1008, 2016
4. M. Damron, F. Rassoul-Agha, T. Seppäläinen. AMS short course in Atlanta, GA. Notices of the AMS, 63, 1087-1090, 2016
3. F. Rassoul-Agha, T. Seppäläinen. A course on large deviation theory with an introduction to Gibbs measures. Graduate Studies in Mathematics, 162, American Mathematical Society, Providence, 2015
2. R.C. Dalang, D. Khoshnevisan, C. Mueller, D. Nualart, Y. Xiao. A minicourse on stochastic partial differential equations, 2006. Ed. by D. Khoshnevisan and F. Rassoul-Agha. Lect. Notes in Math 1962. Springer, Berlin, 2009
1. D. Conus, D. Khoshnevisan, F. Rassoul-Agha. Introduction to probability. Lecture notes used for undergraduate probability

PAPERS

26. M. Balázs, F. Rassoul-Agha, and T. Seppäläinen. Wandering exponent and large deviations for random walk in a dynamic beta environment. Submitted, 2018
25. M. Joseph, F. Rassoul-Agha, and T. Seppäläinen. Independent particles in a dynamical random environment. Submitted, 2017
24. K. Smith, C. Strong, and F. Rassoul-Agha. Multisite generalization of the SHArP weather generator. Submitted, 2017
23. N. Georgiou, F. Rassoul-Agha, and T. Seppäläinen. Geodesics and the competition interface for the corner growth model. *Probab. Th. Relat. Fields.* **169**, 223-255, 2017
22. N. Georgiou, F. Rassoul-Agha, and T. Seppäläinen. Stationary cocycles and Busemann functions for the corner growth model. *Probab. Th. Relat. Fields.* **169**, 177-222, 2017
21. F. Rassoul-Agha, T. Seppäläinen, and A. Yilmaz. Averaged vs. quenched large deviations and entropy for random walk in a dynamic random environment. *Electron. J. Probab.* **22**, 1-47, 2017

20. K. Smith, C. Strong, and F. Rassoul-Agha. A new method for generating stochastic simulations of air temperature. *J. Appl. Meteor. Climatol.* **56**, 953-963, 2017
19. F. Rassoul-Agha, T. Seppäläinen, and A. Yılmaz. Variational formulas and disorder regimes of random walks in random potentials. *Bernoulli*, **23**, 405-431, 2017
18. N. Georgiou, F. Rassoul-Agha, and T. Seppäläinen. Variational formulas and cocycle solutions for directed polymer and percolation models. *Commun. Math. Phys.*, **346**, 741-779, 2016
17. N. Georgiou, F. Rassoul-Agha, and T. Seppäläinen, and A. Yılmaz. Ratios of partition functions for the log-gamma polymer. *Ann. Probab.*, **43**, 2282-2331, 2015
16. A. Borisjuk and F. Rassoul-Agha. Quasiperiodicity and phase locking in stochastic circle maps: a spectral approach. *Phys. D: Nonlinear Phenomena*, **288**, 30-44, 2014
15. F. Rassoul-Agha and T. Seppäläinen. Quenched point-to-point free energy for random walks in random potentials. *Probab. Th. Relat. Fields*, **158**, 711-750, 2014
14. D. Campos, A. Drewitz, A.F. Ramírez A.F., F. Rassoul-Agha, and T. Seppäläinen. Level 1 quenched large deviation principle for random walk in dynamic random environment. *Bull. Inst. Math. Acad. Sin.*, **8**, 1-29. Special Issue in honor of the 70th birthday of Raghu Varadhan, 2013
13. F. Rassoul-Agha, T. Seppäläinen, and A. Yılmaz. Quenched free energy and large deviations for random walks in random potentials. *Comm. Pure Appl. Math.*, **66**, 202-244, 2013
12. M. Joseph, F. Rassoul-Agha. Almost sure invariance principle for continuous-space random walk in dynamic random environment. *ALEA Lat. Am. J. Probab. Math. Stat.*, **8**, 43-57, 2011
11. F. Rassoul-Agha, T. Seppäläinen. Process-level quenched large deviations for random walk in random environment. *Ann. Inst. H. Poincaré Probab. Stat.*, **45**, 214-242, 2011
10. F. Rassoul-Agha, T. Seppäläinen. Quenched invariance principle for ballistic random walk in random environment. *Ann. Inst. H. Poincaré Probab. Stat.*, **45**, 373-420, 2009
9. F. Rassoul-Agha, T. Seppäläinen. An almost sure invariance principle for additive functionals of Markov chains. *Statist. Probab. Lett.*, **78**, 854-860, 2008
8. M. Balázs, F. Rassoul-Agha, T. Seppäläinen, S. Sethuraman. Existence of the zero range process and a deposition model with superlinear growth rates. *Ann. Probab.*, **35**, 1-31, 2007
7. F. Rassoul-Agha, T. Seppäläinen. Quenched invariance principle for multidimensional ballistic random walk in random environment with a forbidden direction. *Ann. Probab.*, **35**, 1209-1249, 2007
6. M. Balázs, F. Rassoul-Agha, T. Seppäläinen. The random average process and random walk in a space-time random environment in one dimension. *Commun. Math. Phys.*, **266**, 499-545, 2006
5. F. Rassoul-Agha, T. Seppäläinen. Ballistic random walk in random environment with a forbidden direction. *ALEA Lat. Am. J. Probab. Math. Stat.*, **1**, 111-147, 2006
4. F. Rassoul-Agha, T. Seppäläinen. An almost sure invariance principle for random walks in a space-time random environment. *Probab. Th. Relat. Fields*, **133**, 299-314, 2005
3. F. Rassoul-Agha. On the zero-one law and the law of large numbers for a random walk in a mixing random environment. *Electron. Comm. in Probab.*, **10**, 36-44, 2005
2. F. Rassoul-Agha. Large deviations for random walks in a mixing random environment and other (non-Markov) random walks. *Comm. Pure Appl. Math.*, **57**, 1178-1196, 2004
1. F. Rassoul-Agha. The point of view of the particle on the law of large numbers for random walks in a mixing random environment. *Ann. Probab.*, **31**, 1441-1463, 2003

CONFERENCES

June 2018	Recent Trends in Continuous and Discrete Probability, Georgia Tech. <i>Speaker</i>
March 2018	Frontier Probability Days, Oregon State University. <i>Organizer</i>
April 2017	Qualitative Methods Around KPZ, CIRM, Lumini, Marseille. <i>Speaker</i>
January 2017	Mini Course on Random Growth Models, National AMS Meeting, Atlanta. <i>Organizer and Speaker</i>
May 2016	Frontier Probability Days, University of Utah. <i>Organizer</i>
August 2016	Raghu Varadhan' 75th Birthday conference, Berlin Technical University. <i>Speaker</i>
October 2015	AMS Central Fall Sectional Meeting, Loyola University. <i>Speaker</i>
August 2015	First Passage Percolation and Related Models, AIM. <i>Speaker</i>
May 2015	Random Polymers and Algebraic Combinatorics, Clay Math Institute, Oxford.
April 2015	Random Motion in Random Media, Eurandom, Eindhoven. <i>Speaker</i>

October 2014	AMS Western Fall Sectional Meeting, San Francisco State University. <i>Speaker</i>
May 2014	Frontier Probability Days, University of Arizona. <i>Organizer and Speaker</i>
September 2012	Random Media II. Sendai Japan. <i>Speaker</i>
July 2012	Random Networks and Environments, Istanbul Center for Math Sciences. <i>Speaker</i>
July 2012	8th World Congress in Probability and Statistics, Istanbul. <i>Speaker</i>
May 2012	Workshop on Random Walks and Random Media, MSRI
October 2011	Workshop on the Kardar-Parisi-Zhang equation and its universality class, American Institute of Mathematics.
September 2011	Workshop on Disordered Media, University of Warwick.
July 2011	A Conference in Honor of the 70th Birthday of S. R. Srinivasa Varadhan, National Taiwan University. <i>Speaker</i>
May 2011	Random Environments, Cornell. <i>Organizer</i>
March 2011	Frontier Probability Days, University of Utah. <i>Organizer</i>
February 2011	Interacting Processes in Random Environments, Fields Institute, Toronto. <i>Speaker</i>
October 2010	Midwest Probability Colloquium, Northwestern University. <i>Speaker</i>
June 2009	Random Walks in Random Environment, PIMS, UBC. <i>Speaker</i>
March 2009	Frontier Probability Days, University of Utah. <i>Organizer</i>
July 2007	Summer Session on Statistical Mechanics, PCMI.
May 2007	Non-Classical Random Walks, Oberwolfach. <i>Speaker</i>
November 2006	Random Media, Banff.
October 2006	AMS Sectional meeting, University of Utah. <i>Special Session Organizer</i>
April 2006	AMS Sectional meeting, San Francisco State University. <i>Speaker</i>
August 2005	New Directions in Probability Theory, IMA. <i>Speaker at RWRE workshop</i>
June 2005	Stochastic Processes and their Applications, University of Santa Barbara. <i>Abstract</i>
June 2005	Random Media and Stochastic Partial Differential Equations, U Southern California.
October 2003	Workshop on Random Media, Oberwolfach. <i>Speaker</i>
August 2003	Workshop on Random Walks in Random Environments, Newton Institute. <i>Speaker</i>
July 2003	The Annual Computational Neuroscience Meeting, Alicante, Spain.
May 2002	School and Conference on Probability Theory, ICTP, Trieste, Italy. <i>Speaker</i>
August 2001	Workshop on Mathematical Physics, Mambucaba, Brazil. <i>Abstract</i>
May 2001	Seminar on Stochastic Processes 2001, University of Florida
November 2000	Probability 2000, New York University.
May 2000	Fifth World Congress of the Bernoulli Mathematical Society for Mathematical Statistics and Probability, University of Guanajuato, Mexico.
March 2000	Seminar on Stochastic Processes 2000, University of Utah.

AWARDS

2014 - 2015	Simons Foundation Fellowship.
2008 - 2015	NSF CAREER Award. Random Walk in Random Environment
Fall 2001 - Spring 2002	Dean's dissertation fellowship. New York University
Fall 1997 - Spring 2001	Teaching and Research Assistantship. Courant Institute, New York University
Summer 1999 and 2000	Research Assistantship. Courant Institute, New York University

GRANTS

2018	NSF Grant. Support for "Frontier Probability Days", Oregon State University, March 2018.
2016	NSF Grant. Support for "Frontier Probability Days", University of Utah, May 2016.
2014 - 2018	NSF Grant. Random Polymer Measures.
2014 - 2015	Simons Foundation Fellowship.

- 2014 **NSF Grant.** Support for “Frontier Probability Days”, Univ. of Arizona, May 2014.
 2008 - 2015 **NSF CAREER Award.** Random Walk in Random Environment
 2005 - 2008 **NSF Grant.** Stochastic Interactions between Particles and Environments. Joint with M. Balázs, University of Wisconsin-Madison.

PROFESSIONAL ACTIVITIES

- 2015 - **Associate Editor.** Electron. J. Probab., Electron. Comm. Probab.
 May 2018 **Organizer.** Frontier Probability Days. Department of Mathematics, Oregon State U
 January 2017 **Organizer.** Course on Random Growth Models, National AMS Meeting, Atlanta.
 May 2016 **Organizer.** Frontier Probability Days. Department of Mathematics, U Utah
 May 2014 **Organizer.** Frontier Probability Days. Department of Mathematics, U Arizona
 2006 - 2012 **Organizer.** Stochastics Seminar. Department of Mathematics, U Utah
 May 2011 **Organizer.** Random Environments. Department of Mathematics, Cornell U
 March 2009/2011 **Organizer.** Frontier Probability Days. Department of Mathematics, U Utah
 2010 **Speaker.** Science Night Live. College of Science, U Utah
 2009 - 2013 **Course Coodinator.** *Math 1070 (Introductory Statistics)*
 2011 - 2013 **MStat Committee Member.** *Math Track Representative*
 2006 - present **Departmental Committee Member.** *Executive, Hiring, Instructorship, Graduate, Statistics Search, Undergraduate Curriculum, Library*
 October 2006 **Organizer.** (with T. Schmitz) Special Session on Random Motion in Random Media, AMS Sectional meeting. Department of Mathematics, U Utah
 July 2006 **Organizer.** (with D. Khoshnevisan) A Minicourse on Stochastic Partial Differential Equations. Department of Mathematics, U Utah
 2002 - present **Referee.** *Comm. Pure Appl. Math., Ann. Probab., Ann. Appl. Probab., Probab. Th. Relat. Fields, Commun. Math. Phys., J. Eur. Math. Soc., J. Appl. Probab., Proc. R. Soc., Ann. Inst. H. Poincaré, Electron. Comm. Probab., Electron. J. Probab., Stoch. Proc. Appl., Ser. A, J. Stat. Phys., J. Mat. Phys., Mathematical Reviews*
 2003 - present **Grant Reviewer.** ICTP, NSF, AMS/NSA, Simons Foundation
 2002 - 2003 **Organizer.** Probability Journal Club. Courant Institute, New York University
 2001 - 2002 **Organizer.** Student/Postdoc Seminar. Courant Institute, New York University

STUDENTS

- 2016- Sergazy Nurbavliyev (Ph.D.)
 2015-2016 Yushan Gu (REU)
 2015-2016 Laurel Baeder (M.Stat.)
 2011-2016 Tony Lam (Ph.D.)
 2014-2015 Hanlei Zhu (M.Stat.)
 2013-2014 Aurora Jensen (M.Stat.)
 2013-2014 Wuxin Yang (UROP)
 2012-2013 Derek Doel (M.Stat.)
 2009-2012 Anna Schoening (Ph.D.)
 2012 Kate Roylance (REU)
 2010-2011 Jim Sferas (M.Stat.)
 2011 Keyang Zhang (UROP)
 2009 Ning Xie (UROP)
 2008 Yunhye Chu, David Grimshaw, Michael Parker, Tyler Peterson, Nathan Simonsen (REU)
 2007-2008 Zsuzsanna Horváth (M.Sci.)

POSTDOCTORAL FELLOWS

2017-	Christopher Janjigian
2014-2017	Arjun Krishnan (now Assistant Professor at the University of Rochester)
2011-2014	Nicos Georgiou (now Senior Lecturer at the University of Sussex)
2009-2012	Mathew Joseph (now Associate Professor at the Indian Statistical Institute in Bangalore)

TEACHING EXPERIENCE

Classes taught	<ul style="list-style-type: none"> - Graduate Statistics. University of Utah, Spring 2017, 2018 - Graduate Probability. University of Utah, Fall 2016, 2017 - Stochastic Processes and Simulation I & II. University of Utah, Fall 2013, 2015 and Spring 2014, 2016 - Linear Models. University of Utah, Fall 2012 - Basic Probability. University of Utah, Fall 2009 and 2010 and Spring 2012, 2013, 2014, 2016 - Introductory Statistics. University of Utah, 2009-2011 - REU on random walks. University of Utah, Fall 2008 - Special Topics in Probability. University of Utah, Fall 2007, 2008, Spring 2013, 2017, 2018 - Statistical Inference I & II. University of Utah, 2005-2009, 2011-2012 - Introduction to Statistical Thinking. University of Utah, Spring 2006 - Precalculus, Calculus I & II, Ordinary and Partial Differential Equations. Ohio State University, 2002-2004 - Mathematical Thinking, Calculus I, Advanced Calculus II, Discrete Mathematics. New York University, 1997-2002 - Basic Probability. New York University, Summer 2002
Workshops ran	<ul style="list-style-type: none"> - Written Comprehensive Exams (Graduate level). Courant Institute, Fall 1999 - Several series of talks on <i>Random Walks in Random Media</i>. Courant Institute, Summer 1999, Spring 2001, Spring 2002 - Complex Variables (Graduate level). Courant Institute, Fall 1998
Training	<ul style="list-style-type: none"> - Passed the "Agrégation" exam. École Normale Supérieure de Cachan, 1995-1996