

# FIRAS RASSOUL-AGHA

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## 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

|                         |   |
|-------------------------|---|
| Fall 2009 -             | <b>Associate Professor.</b> University of Utah, Department of Mathematics<br><i>Research interests:</i> Probability theory, stochastic processes, random media, disordered systems, statistical mechanics, mathematical physics, mathematical biology |
| Fall 2005 - Summer 2009 | <b>Assistant Professor.</b> University of Utah, Department of Mathematics   |
| Fall 2004 - Summer 2005 | <b>Postdoctoral Researcher.</b> Ohio State University, Mathematical Biosciences Institute   |
| Fall 2002 - Spring 2004 | <b>Visiting Assistant Professor.</b> Ohio State University, Department of Mathematics   |
| Fall 1997 - Spring 2002 | <b>Research and Teaching Assistant.</b> New York University, Courant Institute  |

## PUBLICATIONS

- A. Borisyuk and F. Rassoul-Agha. A spectral approach to stochastic circle maps and stochastic bifurcation. To be submitted.
- F. Rassoul-Agha and A. Schoening. Quenched invariance principle for random walk in space-time mixing random environment. To be submitted.
- F. Rassoul-Agha and T. Seppäläinen. Quenched point-to-point free energy for random walks in random potentials. Submitted.
- 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. Submitted.
- F. Rassoul-Agha, T. Seppäläinen, and A. Yilmaz. Quenched free energy and large deviations for random walks in random potentials. *Comm. Pure Appl. Math.* To appear, 2012
- F. Rassoul-Agha, T. Seppäläinen. A course on large deviation theory with an introduction to Gibbs measures. Accepted for publication at AMS GSM. 2013
- 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
- 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
- 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.
- 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
- F. Rassoul-Agha, T. Seppäläinen. An almost sure invariance principle for additive functionals of Markov chains. *Statist. Probab. Lett.*, **78**, 854-860, 2008
- 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
- 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
- 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

- 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
- 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
- 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
- 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
- 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
- F. Rassoul-Agha. Le comportement non-récurrent dans la dynamique quantique; Le rotateur quantique. *Preprints of the University of Paris 7*, 1996

## CONFERENCES

- |                |   |
|----------------|---|
| July 2012      | Random Networks and Environments, Istanbul Center for Mathematical Sciences.  |
| 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>Coorganizer</i>  |
| March 2011     | Frontier Probability Days, University of Utah. <i>Coorganizer</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>Coorganizer</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 Coorganizer</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, University of 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**

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**

2008 - 2013     **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**

2006 - present     **Organizer.** Stochastics Seminar. Department of Mathematics, University of Utah  
 May 2011     **Coorganizer.** Random Environments. Department of Mathematics, Cornell University  
 March 2009/2011     **Coorganizer.** Frontier Probability Days. Department of Mathematics, University of Utah  
 2010     **Speaker.** Science Night Live. College of Science, University of Utah  
 2009 - 2011     **Course Coordinator.** *Math 1070 (Introductory Statistics)*  
 2010 - 2011     **Departmental Committee Member.** *Graduate Committee*  
 2008 - 2010     **Departmental Committee Member.** *Hiring*  
 2007 - 2008     **Departmental Committee Member.** *Statistics Search, Library, Instructorship*  
 2006 - 2007     **Departmental Committee Member.** *Undergraduate Curriculum, Statistics Search*  
 October 2006     **Coorganizer.** (with T. Schmitz) Special Session on Random Motion in Random Media, AMS Sectional meeting. Department of Mathematics, University of Utah  
 July 2006     **Coorganizer.** (with D. Khoshnevisan) A Minicourse on Stochastic Partial Differential Equations. Department of Mathematics, University of Utah  
 2002 - present     **Referee.** *Comm. Pure Appl. Math., Ann. Probab., Probab. Th. Relat. Fields, Commun. Math. Phys., J. Eur. Math. Soc., Ann. Appl. Probab., J. Appl. Probab., Proc. R. Soc., Ann. Inst. H. Poincaré, Electron. Comm. Probab., Electron. J. Probab., Stoch. Proc. Appl., Ser. A, J. Mat. Phys., Mathematical Reviews*  
 2003 - present     **Grant Reviewer.** ICTP, NSF, AMS/NSA  
 2002 - 2003     **Organizer.** Probability Journal Club. Courant Institute, New York University  
 2001 - 2002     **Organizer.** Student/Postdoc Seminar. Courant Institute, New York University

**STUDENTS**

2011-     Tony Lam (Ph.D.)  
 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**

2011-2014     Nicos Georgiou  
 2009-2012     Mathew Joseph

**TEACHING EXPERIENCE**

- Classes taught**
- Basic Probability. University of Utah, Fall 2009 and 2010 and Spring 2012
  - 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 and 2008
  - 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
  - Graduate Basic Probability. New York University, Summer 2002
- Workshops ran**
- Written Comprehensive Exams (Graduate level). Courant Institute, Fall 1999
  - Several series of talks on *Random Walks in Random Media*. Courant Institute, Summer 1999, Spring 2001, Spring 2002
  - Complex Variables (Graduate level). Courant Institute, Fall 1998
- Training**
- Passed the “Agrégation” exam. École Normale Supérieure de Cachan, 1995-1996

**REFERENCES**

- Professor S. R. S. Varadhan, New York University, (212) 998-3334, varadhan@cims.nyu.edu
- Professor T. Seppäläinen, University of Wisconsin-Madison, (608) 263-8891, seppalai@math.wisc.edu
- Professor O. Zeitouni, University of Minnesota, (612) 625-6522, zeitouni@math.umn.edu
- Professor C. Newman, New York University, (212) 998-3309, newman@cims.nyu.edu
- Professor D. Khoshnevisan, University of Utah, (801) 581-3896, davar@math.utah.edu