Curriculum Vitae

Márton Balázs

Born:	1976, Budapest, Hungary
Citizenship:	Hungarian
Languages:	Hungarian (native), English (fluent), French (mid-level)

Education:

1999 - 2003:	Graduate Program, Department of Stochastics, Institute of Mathematics, Budapest University of Technology and Economics.
Supervisor:	Prof. Bálint Tóth.
2000:	Two-month invitation to CWI Amsterdam, supervised by Prof. Jacob van den Berg.
2002-2003:	Doctoral Support Program, Central European University, Budapest.
2003:	Three-month invitation to Institut Henri Poincaré, Paris
Degree:	PhD 2003, Summa Cum Laude.
PhD Thesis:	Coupling methods in stochastic deposition models.
1994 - 1999:	Eötvös Loránd University, Budapest.
1999:	Participant of the National Scientific Conference of Physicist Students.
Degrees:	MsC. Physicist 1999, Physics Teacher 1999.
Diploma Thesis:	Finite groups as inner symmetries in lattice quantum field theories.
1990 - 1994:	ELTE Apáczai Csere János High School
1994:	6^{th} place on the National Competition of High School Students in physics.

Work experience:

2008 - :	Associate Professor Department of Stochastics, Institute of Mathematics, Budapest University of Technology and Economics
2007 - 2008:	Researcher MTA-BME Stochastics Research Group
2006 - 2008:	Assistant Professor Department of Stochastics, Institute of Mathematics, Budapest University of Technology and Economics
2003 - 2006:	Van Vleck Visiting Assistant Professor University of Wisconsin - Madison, Mathematics Department
Postdoc advisor:	Prof. Timo Seppäläinen
Research Interests:	Stochastic interacting systems, systems in random media

Grants and Prizes:

2008: Distinguished Lecturer of the Faculty of Natural Sciences, BUTE,
2007: OTKA Grant no. F-67729 for young researchers,
2006: Géza Grünwald Medallion, The János Bolyai Mathematical Society,
2006: Hungarian Academy of Sciences János Bolyai Scholarship for young researchers,
2005: National Science Foundation Grant No. DMS 0503650.

Publications:

- Research papers:

1. *Scaling exponent for the Hopf-Cole solution of KPZ/Stochastic Burgers*, submitted, joint with J. Quastel and T. Seppäläinen, 27 pages,
2. *Random walk of second class particles in product shock measures*, to appear in Journal of Statistical Physics, joint with Gy. Farkas, P. Kovács and A. Rákos, 31 pages,
3. *Microscopic concavity and fluctuation bounds in a class of deposition processes*, submitted, joint with J. Komjáthy and T. Seppäläinen, 49 pages,
4. *Fluctuation bounds for the asymmetric simple exclusion process* joint with T. Seppäläinen, ALEA - Latin American Journal of Probability and Mathematical Statistics VI: pp. 1-24. 2009,
5. *Order of current variance and diffusivity in the rate one totally asymmetric zero range process* joint with J. Komjáthy, Journal of Statistical Physics, Vol. 133, pp. 59-78, October 2008,
6. *A convexity property of expectations under exponential weights*, joint with T. Seppäläinen, 12 pages. It turned out that our main results can be obtained as special cases of some propositions in Karlin: Total Positivity, Vol. 1.
7. *Exact connections between current fluctuations and the second class particle in a class of deposition models*, joint with T. Seppäläinen, Journal of Statistical Physics, Vol. 127, pp. 431-455, April 2007,
8. *Order of current variance and diffusivity in the asymmetric simple exclusion process*, to appear in the Annals of Mathematics, joint with T. Seppäläinen, 25 pages,
9. *Cube root fluctuations for the corner growth model associated to the exclusion process*, joint with E. Cator and T. Seppäläinen, 41 pages, Electronic Journal of Probability Vol. 11(2006), pp. 1094-1132,
10. *Existence of the zero range process and a deposition model with superlinear growth rates*, joint with F. Rassoul-Agha, T. Seppäläinen and S. Sethuraman, The Annals of Probability, Vol. 35, No. 4, pp. 1201-1249, July 2007,
11. *The random average process and random walk in a space-time random environment in one dimension*, joint with F. Rassoul-Agha and T. Seppäläinen, Communications in Mathematical Physics, Volume 266, Number 2, pp. 499-545, 2006,
12. *Multiple shocks in bricklayers' model*, Journal of Statistical Physics, Vol. 117, pp. 77-98, October 2004,
13. *Stochastic bounds on the zero range processes with superlinear jump rates*, Periodica Mathematica Hungarica 47: 17-28 (2003),
14. *Growth fluctuations in a class of deposition models*, Annales de l'Institut Henri Poincaré, Volume 39, Issue 4, pp. 639-685, July-August 2003,
15. *Microscopic shape of shocks in a domain growth model*, Journal of Statistical Physics, Vol. 105, pp. 511-524, November 2001.

- Other papers:

  1. *Probability 1. Lecture Notes*, in Hungarian, joint with B. Tóth, 113 pages,
  2. *Közlekedési dugók egy matematikai modellje*, a paper in Hungarian for traffic engineers about using the simple exclusion process for modeling traffic jams, appeared in Urban Traffic, pp. 162-164, Issue 3, 2003,
  3. *Egy dugómodell*, another paper in Hungarian for high school students about simple exclusion process and traffic jams, appeared in Mathematical and Physical Journal for Secondary Schools, pp. 301-307 May 2003.

Conference Talks:

1. Interacting Stochastic Particle Systems, May 2009, CRM, Montréal, Canada,
2. Joint Probability Workshop (Technion & BUTE), January 2009, Technion, Haifa, Israel,
3. 100^{th} Statistical Mechanics Conference (very short talk), December 2008, Rutgers,
4. Interacting Particle Systems and Percolation, October 2008, IHP, Paris,
5. Hydrodynamics and fluctuations in interacting particle systems (also organizer), March 2008, Budapest,
6. Arbetsgemeinschaft on Percolation (short talk), October 2007, Oberwolfach,
7. Large Scale Stochastic Dynamics, August 2007, Oberwolfach,
8. Miniworkshop Terschelling (short talk), September 2006, The Netherlands,
9. Markov Processes and Related Topics (in honor of Tom Kurtz on his 65th birthday) (short talk), July 2006, Madison, Wisconsin,
10. Large Scale Behaviour of Interacting Particle Systems: Fluctuations and Hydrodynamics, August 2005, Budapest,
11. Large Scale Stochastic Dynamics (short talk), September 2004, Oberwolfach,
12. Second Dutch-Hungarian Workshop: "Randomness in space and Time", June 2003, Budapest,
13. Center of Applied Mathematics and Computational Physics at Technical University Budapest, April 2003, Göd,
14. Workshop on Mathematical Physics (short talk), August 2001, Mambucaba, IMPA Rio de Janeiro,
15. Random Walks Conference, February 2001, Erwin Schrödinger Institute, Austria.

Seminar Talks:

1. Institute of Mathematics, October 2009, Technical University Budapest, Hungary,
2. Young Researchers' Seminar, Rényi Institute, March 2009,
3. University of Oxford, June 2008,
4. Institute of Mathematics, popularizing talk, June 2008, Technical University Budapest, Hungary,

5. University of Wisconsin, March 2007, Madison, Wisconsin,
6. University of Toronto, March 2007, Toronto, Ontario,
7. Institute of Mathematics, March 2007, Technical University Budapest, Hungary,
8. ÚTIA, December 2006, Prague,
9. Rényi Institute of Mathematics (short talk), November 2006, Budapest,
10. Institute of Mathematics, November 2006, Technical University Budapest, Hungary,
11. Iowa State University, Department Colloquium, April 2006, Ames, Iowa,
12. University of Wisconsin, March 2006, Madison, Wisconsin,
13. Mathematical Biosciences Institute at the Ohio State University, March 2005, Columbus, Ohio,
14. University of Wisconsin, October 2004, Madison, Wisconsin,
15. Ohio State University, March 2004, Columbus, Ohio,
16. University of Wisconsin, September 2003, Madison, Wisconsin,
17. Centre de Mathématiques et Informatique, March 2003, Marseille,
18. Institut Henri Poincaré, February 2003, Paris,
19. EURANDOM, December 2001 Eindhoven, The Netherlands,
20. Institute of Mathematics, November 2001, Technical University Budapest, Hungary,
21. CWI, November 2000 Amsterdam, The Netherlands,
22. Utrecht University, November 2000 The Netherlands.

Teaching experience:

- General Mathematics topics course for MSc physicist students (at BUTE Budapest),
- Probability Theory 2. for mathematician students (at BUTE Budapest),
- Probability Theory 1. for mathematician and physicist students (at BUTE Budapest),
- Probability Theory (Budapest Semesters in Mathematics),
- Second and third semester analysis exercise-classes for physicist students (at BUTE Budapest),
- Third semester engineering mathematics lecture in English (at BUTE Budapest),
- An advanced undergraduate/mid-graduate level course on introduction to stochastic processes (at UW-Madison),
- A first science calculus course (at UW-Madison),
- A large second business calculus course (at UW-Madison),
- A trigonometry course (at UW-Madison),
- A differential equations and linear algebra course (at UW-Madison),

- An intermediate undergraduate-level introductional probability course (at UW-Madison),
- A general mathematics course for elementary school teachers (at UW-Madison),
- An intermediate undergraduate-level course on introductional combinatorics (at UW-Madison),
- Introduction to probability exercise-class (at BUTE Budapest),
- Various calculus exercise-classes (at BUTE Budapest).

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