Curriculum vitae

PERSONAL INFORMATION

Name:	Jiří Černý
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EDUCATION

1993–1998	Five-year master degree in physics, Charles University, Prague.
June 1998	**Master degree in physics**, Faculty of Mathematics and Physics, Charles University, Prague.
1999–2003	Graduate student, EPF Lausanne.
February 2003	**Docteur ès sciences in mathematics**, EPF Lausanne, Doctoral Thesis: *On two properties of strongly disordered systems, aging and critical path analysis*, advisor Gérard Ben Arous.

ACADEMIC POSITIONS

1999–2003	Research and teaching assistant, Department of mathematics, EPF Lausanne.
2003–2005	Research assistant, Weierstrass Institute for Applied Analysis and Stochastics, Berlin.
2005–2007	Scientific collaborator, Chair of stochastic modelling, EPF Lausanne.
2007–2011	Heinz Hopf Lecturer, ETH Zürich.
since Feb 2012	Full Professor of Probability Theory, University of Vienna.

RESEARCH INTERESTS

Probability theory, statistical mechanics, processes in random media, strongly disordered systems, dynamics of spin-glasses, aging, anomalous diffusion, percolation, critical phenomena, interacting particle systems.

RECENT INVITED CONFERENCE PRESENTATIONS

2016

Conference "Random processes and random media", ETH Zürich. *Aging of the Metropolis dynamics of the REM* (11. 1. 2016)

2015

8$^{\text{th}}$ Workshop on Random Dynamical Systems, Bielefeld. *Aging of the Metropolis dynamics of the Random Energy Model* (6. 11. 2015)

Austrian Stochastic days, TU Vienna. *Vacant set of random walk on finite graphs* (28. 9. 2015)

Workshop 'Scaling Limits in Models of Statistical Mechanics', Oberwolfach. *Aging of the Metropolis dynamics of the Random Energy Model* (1. 9. 2015)

Workshop 'Random walks on random graphs and applications', Eurandom, Eindhoven. *Macroscopic phase transition for the vacant set of random walk on a large torus* (14. 4. 2015)

Workshop 'Random walk in random environment', Eurandom, Eindhoven. *Ancestral lineages in spatial populations: the oriented random walk on oriented percolation cluster and behind* (27. 3. 2015)

2014

Workshop 'Probability on Trees and Planar Graphs', BIRS, Banff. *Vacant set of random walk on discrete torus* (19. 9. 2014)

2013

Conference 'QMATH 12', plenary speaker, Berlin. *Aging in dynamics of disordered systems* (12. 9. 2013)

Conference 'Recent Trends in Stochastic Analysis', Vancouver. *Directed random walk on the backbone of an oriented percolation cluster* (22. 7. 2013)

Czech workshop on complex systems, Prague. *Random interlacements, a random walk percolation* (2. 6. 2013)

Workshop 'Analysis and stochastics in complex physical systems', Leipzig. *Randomly trapped random walks* (22. 3. 2013)

2012

Workshop 'Scaling Limits in Models of Statistical Mechanics', Oberwolfach. *Chemical distance on the random interlacements* (11. 9. 2012)

International Congress of Mathematical Physics, Invited session 'Stochastic models and probability', Aalborg. *Vacant set of random walk on finite graphs and random interlacements* (6. 8. 2012)

Random Walks and Random Media Workshop, MSRI, Berkeley. *Chemical distance on the random interlacements* (2. 5. 2012)

PASI meeting "Topics in percolative and disordered systems", Santiago de Chile. *Chemical distance on the random interlacement* (7. 1. 2012)

2011

5th International Conference on Stochastic Analysis and its Applications, Bonn, *Vacant set of random walk on random graphs* (8. 9. 2011)

Conference "Random Environments", Cornell University, *Vacant set of random walk on (random) graphs* (2. 5. 2011)

RECENT SEMINAR TALKS

2015

Probability seminar, University of Cambridge. *Metropolis dynamics of mean-field spin glasses* (4. 3. 2015)

Mathematical physics seminar, IST Austria, Klosterneuburg. *Metropolis dynamics of mean-field spin glasses* (19. 2. 2015)

2014

Probability seminar, University of Münster. *Vacant set of random walk on discrete torus* (2. 7. 2014)

Rhein-Main Kolloquium Stochastik, University of Mainz. *Vacant set of random walk on discrete torus* (23. 5. 2014)

Probability seminar, Columbia University. *Vacant set of random walk on discrete torus* (21. 2. 2014)

2013

Oberseminar Stochastics, University of Bonn. *Vacant set of random walk on discrete torus* (21. 11. 2013)

Probability seminar, TU Graz. *Random interlacements, a random walk percolation* (10. 1. 2013)

2012

Seminar on stochastic processes, ETHZ Zurich. *Directed random walk on a directed percolation cluster* (19. 12. 2012)

Midlands Probability Theory Seminar, University of Warwick. *Randomly trapped random walks* (5. 12. 2012)

ISOR Colloquium, University of Vienna. *Extremes of 'typical' functions on a sphere, random matrices and complexity of spin glasses* (29. 10. 2012)

Mathematisches Kolloquium, University of Vienna. *Random interlacements - a random walk percolation* (23. 5. 2012)

Berlin-Leipzig Seminar on Analysis and Probability Theory, WIAS Berlin. *Chemical distance on the random interlacement* (13. 4. 2012)

2011

Seminar on Stochastic Processes, ETH Zürich. *Chemical distance on the random interlacement* (19. 10. 2011)

Stochastic Analysis Seminars, University of Oxford. *Vacant set of random walk on (random) graphs* (10. 10. 2011)

Probability Day Erlangen-München, LMU München, *Vacant set of random walk on (random) graphs* (1. 7. 2011)

Probability seminar, Courant Institute, NYU, *Vacant set of random walk on (random) graphs* (29. 4. 2011)

Stochastic Analysis Seminar, Princeton University, *Complexity of spherical spin glasses and random matrices* (27. 4. 2011)

Séminaire de Probabilités, Université Lyon I, *Vacant set of random walk on (random) graphs* (13. 1. 2011)

LIST OF PUBLICATIONS

PUBLISHED RESEARCH PAPERS

[1] Jiří Černý and Roman Kotecký. Interfaces for random cluster models. *J. Statist. Phys.*, 111(1-2):73–106, 2003.

[2] Jiří Černý. Critical path analysis for continuum percolation. *Ann. Inst. H. Poincaré Probab. Statist.*, 40(6):661–675, 2004.

[3] Gérard Ben Arous and Jiří Černý. Bouchaud's model exhibits two different aging regimes in dimension one. *Ann. Appl. Probab.*, 15(2):1161–1192, 2005.

[4] Gérard Ben Arous, Jiří Černý, and Thomas Mountford. Aging in two-dimensional Bouchaud's model. *Probab. Theory Related Fields*, 134(1):1–43, 2006.

[5] Jiří Černý. The behaviour of aging functions in one-dimensional Bouchaud's trap model. *Comm. Math. Phys.*, 261(1):195–224, 2006.

[6] Anton Bovier, Jiří Černý, and Ostap Hryniv. The opinion game: stock price evolution from microscopic market modeling. *Int. J. Theor. Appl. Finance*, 9(1):91–111, 2006.

[7] Gérard Ben Arous and Jiří Černý. Dynamics of trap models. In *École d'Été de Physique des Houches, Session LXXXIII "Mathematical Statistical Physics"*, pages 331–394. Elsevier, 2006.

[8] Jiří Černý. Moments and distribution of the local time of a two-dimensional random walk. *Stochastic Process. Appl.*, 117(2):262–270, 2007.

[9] Gérard Ben Arous and Jiří Černý. Scaling limit for trap models on $\mathbb{Z}^d$. *Ann. Probab.*, 35(6):2356–2384, 2007.

[10] Anton Bovier and Jiří Černý. Hydrodynamic limit for the $A+B \to \emptyset$ model. *Markov Process. Related Fields*, 13(3):543–564, 2007.

[11] Gérard Ben Arous and Jiří Černý. The arcsine law as a universal aging scheme for trap models. *Comm. Pure Appl. Math.*, 61(3):289–329, 2008.

[12] Jiří Černý and Véronique Gayrard. Hitting time of large subsets of the hypercube. *Random Structures Algorithms*, 33(2):252–267, 2008.

[13] Gérard Ben Arous, Anton Bovier, and Jiří Černý. Universality of random energy model-like ageing in mean field spin glasses. *J. Stat. Mech. Theory Exp.*, (04):L04003, 2008.

[14] Gérard Ben Arous, Anton Bovier, and Jiří Černý. Universality of the REM for dynamics of mean-field spin glasses. *Comm. Math. Phys.*, 282(3):663–695, 2008.

[15] Jiří Černý. Another view on aging in the REM. In *Spin glasses: statics and dynamics*, volume 62 of *Progr. Probab.*, pages 85–101. Birkhäuser Verlag, Basel, 2009.

[16] Martin T. Barlow and Jiří Černý. Convergence to fractional kinetics for random walks associated with unbounded conductances. *Probab. Theory Related Fields*, 149(3-4):639–673, 2011.

[17] Jiří Černý, Augusto Teixeira, and David Windisch. Giant vacant component left by a random walk in a random d-regular graph. *Ann. Inst. Henri Poincaré Probab. Stat.*, 47(4):929–968, 2011.

[18] Jiří Černý. On two-dimensional random walk among heavy-tailed conductances. *Electron. J. Probab.*, 16:no. 10, 293–313, 2011.

[19] Antonio Auffinger, Gérard Ben Arous, and Jiří Černý. Random matrices and complexity of spin glasses. *Comm. Pure Appl. Math.*, 66(2):165–201, 2013.

[20] Jiří Černý and Augusto Teixeira. Critical window for the vacant set left by random walk on random regular graphs. *Random Structures Algorithms*, 43(3):313–337, 2013.

[21] Jiří Černý and Serguei Popov. On the internal distance in the interlacement set. *Electron. J. Probab.*, 17:no. 29, 25, 2012.

[22] Jiří Černý and Augusto Quadros Teixeira. From random walk trajectories to random interlacements. 23:ii+78, 2012.

[23] Matthias Birkner, Jiří Černý, Andrej Depperschmidt, and Nina Gantert. Directed random walk on the backbone of an oriented percolation cluster. *Electron. J. Probab.*, 18:no. 80, 35, 2013.

[24] Gérard Ben Arous, Manuel Cabezas, Jiří Černý, and Roman Royfman. Randomly trapped random walks. *Ann. Probab.*, 43(5):2405–2457, 2015.

[25] Jiří Černý and Tobias Wassmer. Randomly trapped random walks on $\mathbb{Z}^d$. *Stochastic Process. Appl.*, 125(3):1032–1057, 2015.

[26] Jiří Černý and Tobias Wassmer. Aging of the Metropolis dynamics on the Random Energy Model. Probab. Theory Related Fields (Online first), 2016.

[27] Jiří Černý and Augusto Teixeira. Random walks on torus and random interlacements: Macroscopic coupling and phase transition. to appear in Ann. Appl. Probab., 2016.

[28] Jiří Černý and Artem Sapozhnikov. Mixing time for the random walk on the range of the random walk on tori. *Electron. Commun. Probab.*, 21:1–10, 2016.

[29] Matthias Birner, Jiří Černý, and Andrej Depperschmidt. Random walks in dynamic random environments and ancestry under local population regulation. *Electron. J. Probab.*, 21:no. 38, 1–43, 2016.

PREPRINTS

[30] Jiří Černý and Alexander Drewitz. Quenched invariance principles for the maximal particle in branching random walk in random environment and the parabolic anderson model. in preparation, 2016.

EDITED VOLUMES

[31] Marek Biskup, Jiří Černý, and Roman Kotecký, editors. *Random Walks, Random Fields, and Disordered Systems*, volume 2144 of *Lecture Notes in Mathematics*. Springer, 2015.

CONFERENCE PROCEEDINGS

[32] Gérard Ben Arous and Jiří Černý. Modelling flow and transport with probability tools. In P. A. Bruines and D. D. Genske, editors, *Migration of contaminants in fractured media*, pages 55–67. EPFL, 2000.

PHD THESIS

[33] Jiří Černý. *On Two Properties of Strongly Disordered Systems, Aging and Critical Path Analysis*. PhD thesis, EPF Lausanne, 2003.