

CURRICULUM VITAE

May 2011

Leonid Mytnik

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ACADEMIC DEGREES

- 1993–1996 PhD in Statistics, Faculty of Industrial Engineering and Management, Technion, Haifa, Israel. Completed August 1996.
Ph.D. thesis: *Superprocesses in Random Environments*.
Supervisor: Professor R. Adler.
- 1990–1993 MSc in Operations Research, Faculty of Industrial Engineering and Management, Technion, Haifa, Israel. Completed July 1993.
MSc thesis: *Interacting Branching Diffusions*.
Supervisor: Professor R. Adler.
- 1984–1986, 1988–1990 Studies towards B.Sc degree. Faculty of Engineering Cybernetics, St. Petersburg State Polytechnic University (former Leningrad Polytechnic Institute), St. Petersburg, Russia. Left Russia before formally completing B.Sc. degree.

ACADEMIC APPOINTMENTS

- 2004– Associate Professor,
Faculty of Industrial Engineering and Management,
Technion, Haifa, Israel.
- 1999– 2004 Senior Lecturer,
Faculty of Industrial Engineering and Management,
Technion, Haifa, Israel.
- 1998–1999 Postdoctoral Fellow,
Laboratoire de Probabilités et Modèles Aléatoires
Universités Paris 6,
Paris, France.
- 1996–1998 Postdoctoral Fellow,
Department of Mathematics,
The University of British Columbia,
Vancouver, B.C., Canada.

HONORS

1994 Miriam and Aaron Gutwirth Memorial Fellowship.
2004 The Henry Taub Prize for Excellence in Research.

POSTDOCTORAL FELLOWS

2002 Dr. Kai-Nan Xiang (joint supervision with R. Adler)
2004 Dr. José Villa Morales

LONG TERM VISITING SCIENTISTS

2006—2007 Dr. Anita Winter
2007 Prof. Vladimir Vatutin

RESEARCH GRANTS

2001-2004 BSF, \$60,000, R. Adler, R. Durrett, L. Mytnik, “Interacting particle systems and superprocesses”.
2001-2005 ISF, \$101,000, L. Mytnik. “Interactive superprocesses”.
2002-2003 GIF (Young Scientists’ Program), EURO 40,000, L. Mytnik. “Stochastic Partial Differential Equations and Related Topics”.
2005-2008 GIF, EURO 215,600, K. Fleischmann, A. Klenke, L. Mytnik, “Superprocesses and Stochastic Partial Differential Equations”.
2006-2010 ISF, \$90,000, L. Mytnik. “Stochastic Partial Differential Equations with non-Lipschitz Coefficients”.
2010-2014 ISF, \$160,000, L. Mytnik. “Infinite Dimensional Stochastic Differential Equations and Related Topics”.

PUBLICATIONS

Theses

MSc thesis

Interacting Branching Diffusions, Technion, July 1993.

PhD thesis

Superprocesses in Random Environments, Technion, August 1996.

Refereed papers in professional journals

Papers (published and in press)

1. Adler R., Mytnik L., Bisexual branching diffusions, *Advances in Applied Probability*, 27, 980-1018, 1995.
2. Mytnik L., Superprocesses in random environments, *The Annals of Probability*, 24, 1953-1978, 1996.
3. Mytnik L., Collision measure and collision local time for (α, d, β) superprocesses, *Journal of Theoretical Probability*, 11, 733-763, 1998.
4. Mytnik L., Weak uniqueness for the heat equation with noise, *The Annals of Probability*, 26, 968-984, 1998.

5. Mytnik L., Uniqueness for a mutually catalytic branching model, *Probability Theory and Related Fields*, 112(2), 245-253, 1998.
6. Mytnik L., Uniqueness for a competing species model, *Canadian Journal of Mathematics*, 51(2), 372-448, 1999.
7. Mytnik L., Stochastic partial differential equation driven by stable noise, *Probability Theory and Related Fields*, 123(2), 157-201, 2002.
8. Dawson D.A., Etheridge A.M., Fleischmann K., Mytnik L., Perkins E.A., Xiong J., Mutually catalytic branching in the plane: finite measure states, *The Annals of Probability*, 30, 1681-1762, 2002.
9. Dawson D.A., Etheridge A.M., Fleischmann K., Mytnik L., Perkins E.A., Xiong J., Mutually catalytic branching in the plane: infinite measure states, *Electronic Journal of Probability*, 7(15), 1-61, 2002.
10. Dawson D.A., Fleischmann K., Mytnik L., Perkins E.A., Xiong J., Mutually catalytic branching in the plane: uniqueness, *Annales de l'Institut Henry Poincaré*, 39(1), 135-191, 2003.
11. Fleischmann, K., Mytnik L., Competing species superprocesses with infinite variance, *Electronic Journal of Probability*, 8(8), 1-59, 2003.
12. Mytnik L., Perkins E.A., Regularity and irregularity of $(1 + \beta)$ -stable super-Brownian motion, *The Annals of Probability*, 31, 1413-1440, 2003.
13. Mytnik L., Xiang K.-N., Tanaka formulae for (α, d, β) -superprocesses. *Journal of Theoretical Probability*, 17, 483-502, 2004.
14. Le Gall J.-F., Mytnik L., Regularity and irregularity of the exit measure density for $(1 + \beta)$ -stable super-Brownian motion. *The Annals of Probability*, 33, 194-222, 2005.
15. Durrett, R., Mytnik L., Perkins, E., Competing super-Brownian motions as limits of interacting particle systems, *Electronic Journal of Probability*, 10, 1147-1220, 2005.
16. Burdzy K., Mytnik L., Super-Brownian motion with reflecting historical paths. II. Convergence of approximations. *Probability Theory and Related Fields*, 133(2), 145-174, 2005.
17. Mueller C., Mytnik L., Stan A., The heat equation with time-independent multiplicative stable Lévy noise. *Stochastic Processes and Applications*, 116(1), 70-100, 2006.
18. Mytnik L., Perkins, E., Sturm A., On pathwise uniqueness for stochastic heat equations with non-Lipschitz coefficients. *The Annals of Probability*, 34, 1910-1959, 2006.

19. Mytnik L., Villa J., Self-Intersection local time of (α, d, β) -superprocess. *Annales de l'Institut Henry Poincaré*, 43(4), 481-507, 2007.
20. Mytnik L., Xiong J., Local extinction for superprocesses in random environments, *Electronic Journal of Probability*, 12, 1349-1378, 2007.
21. Mueller C., Mytnik L., Quastel J., Small noise asymptotics of traveling waves, *Markov Processes and Related Fields*, 14, 333-342, 2008.
22. Fleischmann K., Mytnik L., Wachtel V., Optimal Hölder index for density states of superprocesses with $(1 + \beta)$ -branching mechanism. *The Annals of Probability*, 38, 1180-1220, 2010.
23. Klenke A., Mytnik L., Infinite rate mutually catalytic branching. *The Annals of Probability*, 38, 1690-1716, 2010.
24. Mytnik L., Perkins E., Pathwise uniqueness for stochastic heat equations with Hölder continuous coefficients: the white noise case. *Probability Theory and Related Fields*, 149, 1-96, 2011
25. Li Z., Mytnik L., Strong solutions for stochastic differential equations with jumps. To appear in *Annales de l'Institut Henry Poincaré*, 13 pages.
26. Mueller C., Mytnik L., Quastel J., Effect of noise on front propagation in reaction-diffusion equations of KPP type. *Inventiones mathematicae*, 184, 405-453, 2011.
27. Klenke A., Mytnik L., Infinite Rate Mutually Catalytic Branching in Infinitely Many Colonies: The Longtime Behaviour. To appear in *The Annals of Probability*, 23 pages.
28. Fleischmann K., Mytnik L., Wachtel V., Hölder index at a given point for density states of super- α -stable motion of index $1 + \beta$. *Journal of Theoretical Probability*, 24, 66-92, 2011.

Papers (submitted and conditionally accepted)

29. Mytnik, L., Xiong, J. and Zeitouni, O., Snake representation of a superprocess in random environment. Conditionally accepted to *Latin American Journal of Probability and Mathematical Statistics*.
30. Klenke A., Mytnik L., Infinite rate mutually catalytic branching in infinitely many colonies. Construction, characterization and convergence.
31. Mytnik, L., Neuman, E., Sample Path Properties of Volterra Processes.

CONFERENCES

Invited talks

1. *Superprocesses in random environments*.
4th World Congress of the Bernoulli Society, Vienna, August 26-31, 1996.
2. *Weak uniqueness for the heat equation with noise*.
Workshop on SPDE, UBC, Vancouver, 11-15 August 1997. (Opening lecture.)
3. *Weak uniqueness for the heat equation with noise*.
Workshop on SPDE, MSRI, Berkeley, September 15-19, 1997.
4. *Uniqueness for a competing species model*.
Workshop on Interactive Measure-Valued Processes, The Fields Institute for Research in Mathematical Sciences, Toronto, Canada, March 8-12, 1999.

5. *A duality approach to proving uniqueness.*
Seminar on Stochastic Processes — 1999, The Fields Institute for Research in Mathematical Sciences, Toronto, Canada, March 18-20, 1999.
6. *Mutually catalytic branching in the plane.*
Israel Mathematical Union Meeting — 2000, Haifa University, Haifa, Israel, May 17, 2000.
7. *SPDE driven by stable noise*
Workshop on Topics in Modern Stochastic Analysis, The Fields Institute for Research in Mathematical Sciences, Toronto, Canada, September 21-22, 2000.
8. *SPDE driven by stable noise*
Workshop on Stochastic Partial Differential Equations, The University of Warwick, July 16-27, 2001. (Opening lecture.)
9. *Regularity and irregularity of beta-stable super-Brownian motion*
Meeting on Stochastic Analysis, Oberwolfach, October 27 — November 2, 2002.
10. *Some properties of super-Brownian motion with stable branching mechanism*
Workshop on Interacting Stochastic Systems, Technical University of Berlin, April 7-11, 2003.
11. *Regularity and irregularity of beta-stable super-Brownian motion*
Meeting on Branching Processes, Oberwolfach, July 6-12, 2003. *SPDEs driven by stable noise*
Workshop on Stochastic Partial Differential Equations and related topics, The University of Warwick, August 4-15, 2003.
12. *SPDEs driven by stable noise*
Workshop on Stochastic Partial Differential Equations, Banff, Canada, September 27 — October 2, 2003.
13. *On pathwise uniqueness for stochastic heat equations with non-Lipschitz coefficients*
The Sixth World Congress of the Bernoulli Society, Barcelona, July 26-31, 2004.
14. *On uniqueness for stochastic heat equations with non-Lipschitz coefficients*
30th Conference on Stochastic Processes and their Applications, Santa Barbara, California, June 26 - July 1, 2005. (Plenary talk.)
15. *On uniqueness for stochastic heat equations with non-Lipschitz coefficients*
Workshop on Stochastic Partial Differential Equations, Centro di Ricerca Matematica Ennio De Giorgi, April 3-7, 2006.
16. *Uniqueness for a Volterra-type stochastic equation*
Conference on SPDEs, Cornell University, April 22 - April 25, 2007.
17. *Uniqueness for a Volterra-type stochastic equation*
Probability and Stochastic Processes, Symposium in honour of Donald A. Dawson's work, Carleton University, Canada, June 5 - June 8, 2007.

18. *Uniqueness for a Volterra-type stochastic equation*
5th Workshop on Markov Processes and Related Topics 2007, Beijing, China, July 14-18, 2007.
19. *On uniqueness for stochastic partial differential equations with non-Lipschitz coefficients*
Equadiff 2007 - International Conference on Differential Equations, Vienna, Austria, August 5-11, 2007.
20. *Uniqueness for a Volterra-type stochastic equation*
8th International Meeting on Stochastic Partial Differential Equations and Applications, Trento, Italy, January 6-12, 2008.
21. *Pathwise uniqueness for stochastic heat equations with Hölder continuous coefficients.*
7th World Congress of the Bernoulli Society, Singapore, July 14 - 19, 2008.
22. *Pathwise uniqueness for stochastic heat equations with Hölder continuous coefficients.*
Workshop on Stochastic Partial Differential Equations, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, January 4 - 8, 2010.
23. *Infinite rate mutually catalytic branching.*
Brazilian School of Probability (Escola Brasileira de Probabilidade, EBP), Buzios, Brazil, August 1 - 7, 2010. (Plenary talk.)
24. *Infinite rate mutually catalytic branching.*
73rd Annual Meeting of the IMS, Gothenburg, Sweden, August 9 - 13, 2010.
25. *Infinite rate mutually catalytic branching.*
ICM Satellite Conference on Probability and Stochastic Processes Indian Statistical Institute, Bangalore August 13 - 17, 2010.

Invited talks in future conferences

26. *Regularity properties of superprocesses with $1 + \beta$ -stable branching mechanism.*
35th Conference on Stochastic Processes and their Applications, Oaxaca, Mexico, June 19 - June 24, 2011.
27. *Regularity properties of superprocesses with $1 + \beta$ -stable branching mechanism.*
Seventh Seminar on Stochastic Analysis, Random Fields and Applications, Ascona, Switzerland, May 23 - May 27, 2011.

Contributed talks

28. *Regularity and irregularity of beta-stable super-Brownian motion.*
International Symposium on Probability and Its Applications, Banff, Canada, July 31 — August 2, 2002.
29. *Some properties of beta-stable super-Brownian motion.*
32nd Probability Summer School, Saint-Flour, France, July 7-24, 2002.