9/6/2009

CURRICULUM VITAE

Leonid Koralov

I. PERSONAL INFORMATION

EDUCATION

Institution	Degree	Date Awarded
SUNY at Stony Brook	PhD	1998
Moscow State University	BSc	1991

EXPERIENCE IN HIGHER EDUCATION

Institution	Rank	Dates
University of Maryland	Associate Professor	2008 - present
University of Maryland	Assistant Professor	2005 - 2008
Princeton University	Assistant Professor	2000 - 2006
Institute for Advanced Study	Member	1998 -2000

PROFESSIONAL EXPERIENCE NOT IN HIGHER EDUCATION

Visiting Graduate Student, Center for Nonlinear Studies, Los Alamos National Laboratory (Oct 1997 - Jan 1998).

II. RESEARCH, SCHOLARLY AND CREATIVE ACTIVITY

PUBLICATIONS

RESEARCH ARTICLES

A. Articles published, or accepted for publication, in research journals

1. (with S. Nechaev and Y. Sinai) Limiting Probability Distribution for a Random Walk with Topological Constraints, Chaos 1 (1991), no 2, 131-133.
2. (with S. Nechaev and Y. Sinai) Limit Behavior of a two-dimensional Random Walk with Topological Constraints, Theory Probab. Appl 38 (1993), no 2, 296-306.
3. Effective Diffusivity of Stationary Vector Fields with Short Time Correlations, Random Operators and Stochastic Equations, no 4, Vol 5, pp 303-324 (1997).
4. Transport by Time Dependent Stationary Random Flow, Communications in Mathematical Physics, 199, pp 649-681 (1999).
5. Transport by Vector Fields with Kolmogorov Spectrum, Journal of Statistical Physics, Vol 98, Issue 1/2, pp 405-418 (2000).
6. (with R. Carmona and S. Molchanov) Asymptotics for the Almost Sure Lyapunov Exponent for the Solution of the Parabolic Anderson Problem, Random Operators and Stochastic Equations, Vol 9, No. 1, pp 77-86 (2001).

7. (with D. Dolgopyat and V. Kaloshin) Hausdorff Dimension in Stochastic Dispersion, Journal of Statistical Physics, Vol 108, Nos 5/6, pp 943-972 (2002).

8. (with D. Dolgopyat and V. Kaloshin) A Limit Shape Theorem for Periodic Stochastic Dispersion, Communications in Pure and Applied Mathematics, 57 (2004), no 9, pp 1127-1158.

9. (with D. Dolgopyat and V. Kaloshin) Sample Path Properties of the Stochastic Flows, Annals of Probability, 32 (2004) no 1A, pp 1-27.

10. Random Perturbations of 2-Dimensional Hamiltonian Flows, Probability Theory and Related Fields 129, pp 37-62 (2004).

11. The Existence of Pair Potential Corresponding to Specified Density and Pair Correlation, Letters in Mathematical Physics (2005), 71, pp 135-148.

12. An Inverse Problem for Gibbs Fields, Proceedings and Lecture Notes, 49 (2007)

13. An Inverse Problem for Gibbs Fields with Hard Core Potential, Journal of Mathematical Physics , 48 No 5 (2007)

14. (with D. Dolgopyat) Averaging of Hamiltonian Flows with an Ergodic Component, Annals of Probability, Vol. 36, No. 6, 1999-2049 (2008)

15. (with D. Dolgopyat) Motion in a Random Force Field, Nonlinearity. (2008)

16. (with M. Cranston, S. Molchanov, B. Vainberg) Continuous Model for Homopolymers, Jounal of Functional Analysis.

17. (with M. Freidlin) Nonlinear Stochastic Perturbations of Dynamical Systems, Probability Theory and Related Fields.

B. Articles in proceedings of symposia, conferences, etc.

18. (with D. Dolgopyat and V. Kaloshin) Long time behaviour of periodic stochastic flows, International Congress on Mathematical Physics, 290-295, World Sci Publ. (2005).

C. Articles Submitted for publication

19. (with M. Freidlin) Metastability for Nonlinear Random Perturbations of Dynamical Systems. Submitted to Journal of Statistical Physics.

20. (with M. Cranston, S. Molchanov, B. Vainberg) A Solvable Model for Homopolymers and Critical Phenomena. Submitted to Random Operators and Stochastic Equations.

D. Research Announcements

E. Technical reports not included above

F. Research articles in preparation

21. Diffusion in Rayleigh-Benard Convection.

22. (with D. Dolgopyat and M. Freidlin) Deterministic and Stochastic Perturbations of Hamiltonian Systems on a 2-dimensional torus.

EXPOSITORY ARTICLES

MONOGRAPHS, PRINTED LECTURE NOTES, ETC.

(with Ya. Sinai) Theory of Probability and Random Processes, Springer-Verlag, Universitext (2007), 353 pp + xi.

GRANTS, CONTRACTS, AWARDS AND PRIZES

2008-2011 — Focused Research Group grant.
2007-2010 — NSF Research Grant (principal investigator).
2004-2007 — NSF Research Grant (principal investigator).
1999-2002 — NSF Postdoctoral Fellowship.
1998-1999 academic year — Institute for Advanced Study Fellowship.

INVITED TALKS (recent)

Stochastic Dynamics opening workshop (SAMSI), 2009; AMS meeting (Penn State), 2009; Stochastic Processes and Applications (Berlin), 2009; Turbulent Mixing and Beyond (Trieste), 2009, AMS meeting (Raleigh), 2009; Workshop on Random Walks, Particle Systems and Random Media (Santiago, Chile, 2008); Stochastic Dynamical Systems and Control, (March 2007, MSRI); Stochastic Processes and Applications (Urbana-Champaign, 2007)
Seminar talks in: University of Illinois at Urbana-Champaign, University of Chicago, CIMAT (Guanajuato), UNC Charlotte, UMD, Penn State University, Georgia Tech.

III. TEACHING AND ADVISING

COURSES TAUGHT IN THE LAST FIVE YEARS

Semester	Course
Fall 2009	STAT 600 and STAT 400
Spring 2009	STAT 601
Fall 2008	STAT 600
Spring 2008	STAT 601
Fall 2007	STAT 600
Spring 2007	STAT 601
Fall 2006	STAT 600
Prior to 2007	Various courses at Princeton University

IV. SERVICE

SERVICE TO THE UNIVERSITY

SERVICE TO THE DEPARTMENT OTHER THAN TEACHING

Co-organizer of the Probability Seminar (currently)
Serving on Policy Committee (currently)
Serving on the High School Mathematics Competition Committee (currently)
co-advising a PhD student.
Taught a Mini-Course for Graduate Students (Spring 2007).

SERVICE TO THE MATHEMATICAL COMMUNITY

Currently serving on Math in Moscow Committee of the AMS.