

YURI BAKHTIN

CURRICULUM VITAE (JULY 2021)

EMPLOYMENT

2019–	Professor of Mathematics, Courant Institute of Mathematical Sciences, New York University, New York, NY
2014–2019	Associate Professor of Mathematics, Courant Institute of Mathematical Sciences, New York University, New York, NY
2010–2014	Associate Professor, School of Mathematics, Georgia Institute of Technology, Atlanta, GA
2005–2010	Assistant Professor, School of Mathematics, Georgia Institute of Technology, Atlanta, GA
2005–2006	Postdoctoral Fellow, Department of Mathematics of University of Toronto and Fields Institute for Research in Mathematical Sciences, Toronto, ON, Canada (on leave from Georgia Tech)
2004–2005	Visiting Assistant Professor, Department of Mathematics, Duke University, Durham, NC
2003–2004	Researcher, Nonlinear Dynamics Lab at the International Institute of Earthquake Prediction Theory and Mathematical Geophysics, Moscow, Russia
2002–2003	Postdoctoral Member, School of Mathematics, Institute for Advanced Study, Princeton, NJ
2001–2002	Junior Researcher, Nonlinear Dynamics Lab at the International Institute of Earthquake Prediction Theory and Mathematical Geophysics, Moscow, Russia
1999–2002, 2003–2004	Mathematics Consultant, Integra Group, Moscow

EDUCATION

Ph.D. Mathematics, Moscow State University, Moscow, Russia, 2001.
M.A./B.A. Mathematics, Moscow State University, Moscow, Russia, 1998.

RESEARCH INTERESTS

Random dynamics, probabilistic models of mathematical physics

AWARDS

2021	Fellow of the Institute of Mathematical Statistics
2018–2022	NSF Award DMS-1811444
2014–2017	NSF Award DMS-1460595
2008–2013	NSF CAREER Award DMS-0742424

2004	Russian Science Support Foundation Grant
2004	President of the Russian Federation Grant
2000–2001	Russian Federation State Fellowship
2000	Center for Mathematical Physics and Stochastics (Aarhus, Denmark) Summer Stipend
1998–1999	Soros Graduate Student Award
1999	1-st prize of Kolmogorov Conference, Moscow
1998	Graduated from Moscow State University with Diploma with distinction
1996–1997	Soros Student Award
1994–1995	Soros Student Award

SHORT-TERM VISITING POSITIONS

January, 2017	Guest Researcher, Univ. Paris Diderot, France
May–June, 2013	Visiting Researcher, Lebesgue Center, Rennes, France
February, 2011	Visiting Member, Fields Institute, Toronto, ON, Canada
June, 2003	Visiting Researcher, California Institute of Technology, Pasadena, CA
August, 2000	Visiting Researcher, Center for Mathematical Physics and Stochastics, Aarhus & Copenhagen, Denmark

BIBLIOGRAPHY

1. **Yuri Bakhtin**, *Hong-Bin Chen*, Dynamic polymers: invariant measures and ordering by noise, 47 pp — submitted
2. **Yuri Bakhtin**, *Tobias Hurth*, *Sean D. Lawley*, *Jonathan C. Mattingly*, Singularities of invariant densities for random switching between two linear ODEs in 2D. — accepted at SIADS
3. **Yuri Bakhtin**, *Hong-Bin Chen*, Atypical exit events near a repelling equilibrium, — Ann. Probab. 49(3): 1257–1285 (May 2021)
4. **Yuri Bakhtin**, *Hong-Bin Chen*, Long exit times near a repelling equilibrium, — Ann. Appl. Probab. 31(2): 594–624 (April 2021)
5. **Yuri Bakhtin**, *Donghyun Seo*, Localization of directed polymers in continuous space, 56pp — Electron. J. Probab. Volume 25 (2020), paper no. 142, 56 pp.
6. **Yuri Bakhtin**, *Mikhail I. Katsnelson*, *Yuri I. Wolf*, *Eugene V. Koonin*, Evolution in the weak-mutation limit: Stasis periods punctuated by fast transitions between saddle points on the fitness landscape PNAS, PNAS January 26, 2021 118 (4) e2015665118
7. **Yuri Bakhtin**, *Liyang Li*, Strongly mixing smooth planar vector field without asymptotic directions, 22pp — submitted
8. **Yuri Bakhtin**, *Zsolt Pajor-Gyulai*, Tails of exit times from unstable equilibria on the line, — Journal of Applied Probability, Volume 57, Issue 2 June 2020, pp. 477–496

9. **Yuri Bakhtin**, *Liyang Li*, Weakly mixing smooth planar vector field without asymptotic directions, 10pp — Proc. Amer. Math. Soc. 148 (2020), 4733–4744
10. **Yuri Bakhtin**, *Alexisz Gaál*, Exit time asymptotics for dynamical systems with fast random switching near an unstable equilibrium — Stochastics and Dynamics Vol. 20, No. 04, 2050026 (2020)
11. **Yuri Bakhtin**, *Zsolt Pajor-Gyulai*, Scaling limit for escapes from unstable equilibria in the vanishing noise limit: nontrivial Jordan block case — Stochastics and Dynamics Vol. 18, No. 5 (2019) 1950022
12. **Yuri Bakhtin**, *Wei Wu*, Transversal fluctuations for a first passage percolation model, — Annales de l'Institut Henri Poincaré, Probabilités et Statistiques, Volume 55, Number 2 (2019), 1042–1060
13. **Yuri Bakhtin**, Universal statistics of incubation periods and other detection times via diffusion models, — Bulletin of Mathematical Biology, Volume 81 (2019), Issue 4, pp. 1070–1088
14. **Yuri Bakhtin**, *Zsolt Pajor-Gyulai*, Malliavin calculus approach to long exit times from an unstable equilibrium, — Annals of Applied Probability (2019) Vol. 29, No. 2, 827–850
15. **Yuri Bakhtin**, *Liyang Li*, Thermodynamic limit for directed polymers and stationary solutions of the Burgers equation — Comm. Pure Appl. Math 72 (2019): pp.536–619
16. **Yuri Bakhtin**, *Liyang Li*, Zero temperature limit for directed polymers and inviscid limit for stationary solutions of stochastic Burgers equation — Journal of Statistical Physics, 172 (2018), Issue 5, pp. 1358–1397
17. **Yuri Bakhtin**, *Konstantin Khanin*, On global solutions of the random Hamilton-Jacobi equations and the KPZ problem — Invited article in Nonlinearity 31 (2018), pp. R93–R121
18. **Yuri Bakhtin**, *Tobias Hurth*, *Sean D. Lawley*, *Jonathan C. Mattingly*, Smooth invariant densities for random switching on the torus, — Nonlinearity 31 (2018) 1331–1350
19. **Yuri Bakhtin**, *Philippe G. Lefloch*, Ergodicity and Hopf–Lax–Oleinik formula for fluid flows evolving around a black hole under a random forcing, 38pp — Stochastic PDE(2018) 6: 746–785.
20. **Yuri Bakhtin**, Inviscid Burgers equation with random kick forcing in noncompact setting — Electronic Journal of Probability, 21 (2016), 50pp
21. **Yuri Bakhtin**, Ergodic theory of the Burgers equation. — A chapter in Probability and Statistical Physics in St. Petersburg (AMS Proceedings of Symposia in Pure Mathematics, V.91), edited by V.Sidoravicius and S.Smirnov, AMS, Providence, 2016
22. **Yuri Bakhtin**, *Andrzej Swiech*, Scaling limits for conditional diffusion exit problems, Doob's h-transform, and asymptotics for nonlinear elliptic equations — Transactions of American Mathematical Society, 368 (2016), 6487–6517
23. **Yuri Bakhtin**, *Tobias Hurth*, *Jonathan C. Mattingly*, Regularity of invariant densities for 1D-systems with random switching, — Nonlinearity, 28 (2015), no.11, 3755–3787
24. **Yuri Bakhtin**, On Gumbel limit for the length of reactive paths — Stochastics and Dynamics, 15, 1550001 (2015)
25. **Yuri Bakhtin**, *Eric Cator*, *Konstantin Khanin*, Space-time stationary solutions for the Burgers equation — Journal of the American Mathematical Society 27 (2014), no.1, 193–238
26. **Yuri Bakhtin**, Burgers equation with Poisson random forcing — Annals of Probability 41(2013), no. 4, 2961–2989

27. **Yuri Bakhtin**, Geometry of large random trees: SPDE approximation. — In: Stochastic Geometry, Spatial Statistics and Random Fields, E.Spodarev ed., Lecture Notes in Mathematics, Vol. 2068, Springer (2013), 399–420.
28. **Yuri Bakhtin**, *Tobias Hurth*, Invariant densities for dynamical systems with random switching — *Nonlinearity* 25 (2012), 2937–2952.
29. **Yuri Bakhtin**, *Joshua Correll*, A neural computation model for decision making times. — *Journal of Mathematical Psychology*, 56 (2012), 333–340
30. **Yuri Bakhtin**, Decision making times in mean-field dynamic Ising model — *Annales Henri Poincaré*, Volume 13, Number 5 (2012), 1291–1303
31. **Yuri Bakhtin**, *Leonid Bunimovich*, The optimal sink and the best source in a Markov chain — *Journal of Statistical Physics* (2011) Volume 143, Number 5, 943–954
32. **Yuri Bakhtin**, Noisy heteroclinic networks,— *Probab. Theory Related Fields* 150 (2011), no. 1-2, 1–42
33. *Sergio Almada*, **Yuri Bakhtin**, Normal forms approach to diffusion near hyperbolic equilibria — *Nonlinearity* 24 (2011) 1883–1907
34. *Sergio Almada*, **Yuri Bakhtin**, Scaling limit for the diffusion exit problem in the Levinson case — *Stochastic Processes and Applications*, Volume 121, Issue 1, January 2011, 24–37
35. **Yuri Bakhtin**, SPDE approximation for random trees. — *Markov Process. Related Fields* 17 (2011), no. 1, 1–36
36. **Yuri Bakhtin** Small noise limit for diffusions near heteroclinic networks, — *Dynamical Systems*, Volume 25, Issue 3, September 2010, pp. 413 – 431
37. **Bakhtin Yu.**, Poisson limit for associated random fields, — *Theory Probab. Appl.*, Volume 54, Issue 4, pp. 678-681, 2010.
38. **Bakhtin Yu.**, *Khanin K.*, Localization and Perron–Frobenius Theory for Directed Polymers, — *Moscow Mathematical Journal*, Volume 10 (2010), Number 4
39. **Yuri Bakhtin**, *Carl Mueller* Solutions of semilinear wave equation via stochastic cascades. *Commun. Stoch. Anal.* 4 (2010), no. 3, 425431
40. **Yuri Bakhtin** Thermodynamic limit for large random trees, — *Random Structures and Algorithms*, Volume 37, Issue 3, October 2010, Pages: 312–331
41. **Bakhtin Yu.**, *Heitsch C.E.* Large deviations for random trees and the branching of RNA secondary structures, — *Bull.Math.Biology*, Volume 71(2009), No. 1, 84–106
42. **Bakhtin Yu.**, *Heitsch C.E.* Large deviations for random trees, — *J.Stat.Phys.* (2008) 132:551–560
43. **Bakhtin Yu.**, *Martinez M.* A characterization of harmonic measures on laminations by hyperbolic Riemann Surfaces, — *Annales de l'Institut Henri Poincaré - Probabilités et Statistiques*, (2008) Vol. 44, No. 6, 1078–1089
44. **Bakhtin Yu.** Exit asymptotics for small diffusion about an unstable equilibrium, — *Stochastic Processes and their Applications*, 118 (2008), 839–851.
45. **Bakhtin Yu.**, *Mattingly J.C.* Malliavin calculus for infinite-dimensional systems with additive noise *Journal of Functional Analysis*, Volume 249 (2007), Issue 2, Pages 307–353.
46. **Bakhtin Yu.** Burgers equation with random boundary conditions, — *Proc. Amer. Math. Soc.* 135 (2007), 2257–2262.

47. **Bakhtin Yu.** Existence and uniqueness of stationary solutions for 3D Navier-Stokes system with small random forcing via stochastic cascades. — *J. Stat. Phys.*, 2006, v.122, no.2, p.351–360.
48. **Bakhtin Yu.** Lyapunov exponents for stochastic differential equations with infinite memory. Applications to stochastic Navier-Stokes system in 2D. — *Discrete Contin. Dyn. Syst. Ser. B*, 2006, v.6, no.4, p.697–709
49. **Bakhtin Yu.**, *Mattingly J.C.* Stationary solutions of stochastic differential equations with memory and stochastic partial differential equations. — *Commun. Contemp. Math.*, 2005, v.7, no.5, p.553 – 582
50. *Arnold M.D.*, **Bakhtin Yu.Yu.**, *Dinaburg E.I.* Regularity of Solutions to Vorticity Navier–Stokes System on \mathbf{R}^2 . — *Comm. Math. Phys.*, 2005, v. 258, no. 2, p.339–348
51. **Bakhtin Yu.Yu.**, *Dinaburg E.I.*, *Sinai Ya.G.* On solutions of the Navier-Stokes system with infinite energy and enstrophy. In memory of A.A.Bolibrukh, — *Uspekhi Mat. Nauk*, 2004, v.59, no.6, p.55–72
52. *Arnold M.D.*, **Bakhtin Yu.Yu.**, *Dinaburg E.I.* Regularity of solutions to the Navier–Stokes system on plane, — *Uspekhi Mat. Nauk*, 2004, v.59, no.3(357), p.157–158
53. **Bakhtin Yu.Yu.** Existence and uniqueness of stationary solutions of nonlinear stochastic differential equation with memory. — *Theory Probab. Appl.*, 2002, v. 47, no. 4, p.764–769
54. **Bakhtin Yu.Yu.** A functional central limit theorem for transformed solutions of the multidimensional Burgers equation with random initial data. — *Theory Probab. Appl.*, 2001, v. 46, no. 3, p.21–44
55. **Bakhtin Yu.Yu.**, *Chervonenkis, A.Ya.*, *Kantsel, A.V.*, *Danilov, A.V.* A method of reconstruction of a conditional distribution field. — *Avtomatika i telemekhanika (Automation and Remote Control)*, 2000, no. 12, p. 75–86
56. **Bakhtin Yu.Yu.** A functional central limit theorem for transformed solutions of the multidimensional Burgers equation with random initial data. — *Doklady Rossiiskoi Akademii Nauk*, 2000, v. 372, no. 6. p. 5–7
57. **Bakhtin Yu.Yu.** A functional central limit theorem for a solution of the Burgers equation with the initial data given by an associated random measure. — *Vestnik Moskovskogo Universiteta, Ser. 1*, 2000, no. 6, p. 8–15
58. **Bakhtin Yu.Yu.** A functional central limit theorem for random solutions of the Burgers equation. — *Theory Probab. Appl.*, 1999, v. 44, no. 3, p. 698–699
59. **Bakhtin Yu.Yu.** A law of the iterated logarithm for a solution of the Burgers equation with random data. — *Matematicheskie Zametki*, 1998, v. 64, no. 6, p. 812–823
60. **Bakhtin Yu.Yu.**, *Bulinski, A.V.* Moment inequalities for sums of dependent multiindexed random variables. — *Fundamentalnaya i prikladnaya matematika*, 1997, v. 3 no. 4, p. 1101–1108

TEACHING AT WORKSHOPS

- | | |
|------|---|
| 2018 | Ergodic theory of Stochastic Burgers Equation, 2018 Northwestern Summer School in Probability |
| 2017 | Topics in random dynamics, Workshop on Random Dynamics, Guanajuato, Mexico, |
| 2014 | Ergodic theory of SPDEs, Summer School on Stochastic PDEs, MSRI, Berkeley |

2012 Ergodic theory of the Burgers equation with random force, St. Petersburg School on Probability and Statistical Physics

INVITED TALKS/ CONFERENCES/ SEMINARS

1. Talks canceled/postponed in 2020/2021 due to the pandemic: SPDE conference, Vienna; Stanford; Technion; Shilnikov Memorial Conference, Nizhniy Novgorod, Russia; FPP workshop, Bangalore, India; AIMS Meeting, Atlanta; SPDE MEeting Trento, Italy, Mathematical Foundations of Biological Organization Workshop in Oberwolfach
2. *Dynamic polymers: invariant measures and ordering by noise*, Stochastic PDEs and Friends, Berlin, Germany (online), 2021
3. *Dynamic polymers: invariant measures and ordering by noise*, Probability Seminar at Carnegie Mellon (online), 2021
4. *Dynamic polymers: invariant measures and ordering by noise*, Stochastic Processes and Their Friends, Leeds, UK (online), 2021
5. *Dynamic polymers: invariant measures and ordering by noise*, Dynamics seminar at Courant (online), 2021
6. *Universal statistics of incubation times and other applications of simple diffusion models* Bio Dynamics Days 2020 (joint between Le Havre Normady University, France and Courant (online)
7. *Ergodic theory of the stochastic Burgers equation*, University of Virginia Mathematics Colloquium, 2020
8. *Noisy dynamics near unstable equilibria*, National Library of Medicine IRP Seminar, NIH, Bethesda, MD, 2020
9. *Ergodic theory of the stochastic Burgers equation*, Plenary lecture, XII Americas Conference on Differential Equations and Nonlinear Analysis, Guanajuato, Mexico, 2019.
10. *Diffusion exit problems near unstable equilibria*, Dynamical system seminar, Courant Institute, 2019
11. *Rare transitions in noisy heteroclinic networks*, SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, 2019
12. *Burgers equation with random forcing*, Southeastern Probability Conference, Duke University, May, 2019
13. *Burgers equation with random forcing*, SPDE workshop, Luminy, France, 2019
14. *Universal statistics of incubation times and other applications of simple diffusion models*, Biomathematics/ Computational Biology Colloquium, Courant Institute, 2019
15. *Burgers equation with random forcing*, Computational and Applied Math and PDE Seminar, University of Chicago, 2018
16. *Rare transitions in noisy heteroclinic networks*, Probability Seminar, University of Chicago, 2018
17. *Rare transitions in noisy heteroclinic networks*, Probability Seminar, University of Maryland, 2018
18. *Burgers equation with random forcing*, Applied Mathematics Seminar, Stanford University, 2018

19. *Burgers equation with random forcing*, Probability Seminar, University of Utah, 2018
20. *Burgers equation with random forcing*, Workshop “Interacting Particle Systems and Parabolic PDEs”, BIRS, Banff, Canada, 2018
21. *Burgers equation with random forcing*, London Mathematical Society – EPSRC Durham Symposium “Homogenisation in Disordered Media”, Durham, UK, 2018
22. *Burgers equation with random forcing*, Center for Applied Mathematical Sciences Colloquium, USC, Los Angeles, 2018
23. *Exit problems and rare transitions in noisy heteroclinic networks.*, Workshop “New Developments in Open Dynamical Systems and Their Applications”, BIRS, Banff, Canada, 2018
24. *Invariant densities for systems with random switching*, Probability Seminar, CUNY, 2018
25. *Burgers equation with random forcing*, Mathematics Colloquium, Tulane University, New Orleans, 2017
26. *Burgers equation with random forcing*, Mathematics Colloquium, University of Arizona, Tucson, 2017
27. *Burgers equation with random forcing*, Workshop on Dynamical Systems and related topics, UMD, 2017
28. *Burgers equation with random forcing*, Dynamics Seminar, Stony Brook, 2017
29. *Burgers equation with random forcing*, Le séminaire du LPMA, Univ. Paris Diderot, 2017
30. *Burgers equation with random forcing*, Workshop on probabilistic methods in dynamical systems and applications, CRM, Montreal, 2016
31. *Burgers equation with random forcing*, Nonlinear Waves Conference in Philadelphia, 2016
32. *Burgers equation with random forcing*, 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, FL, 2016
33. *Burgers equation with random forcing* Simons Center’s Workshop: Stochastic Partial Differential Equations, 2016
34. *Burgers equation with random forcing*, Applied Analysis Seminar at Penn State, 2016
35. *Burgers equation with random forcing*, plenary speaker at the Seminar on Stochastic Processes 2016, University of Maryland
36. *Burgers equation with random forcing*, Kavli Institute of Theoretical Physics, Santa Barbara, 2016
37. *Burgers equation with random forcing*, Temple–UPenn Probability Seminar, Philadelphia, 2016
38. *Burgers equation with random forcing*, 2015 Canadian Mathematical Society Winter Meeting in Montreal
39. *Burgers equation with random forcing* Colloquium at Lehigh University, 2015
40. *Burgers equation with random forcing* Workshop on Disordered Models of Mathematical Physics Valparaiso, Chile, 2015
41. Main speaker (two talks) at Finger Lakes Probability Seminar 2015 in Rochester, NY
42. *Burgers equation with random forcing*, Probability Seminar, Harvard, 2015

43. *Noisy heteroclinic networks and sequential decision making*, Graduate Student/Postdoc Seminar, Courant Institute, 2014
44. *Burgers equation with random forcing*, Probability Seminar, CUNY, 2014
45. *Burgers equation with random forcing*, MFPDE Seminar, Rutgers University, 2014
46. *Burgers equation with random forcing*, Ergodic Theory and Statistical Mechanics Seminar organized by Yakov Sinai, Princeton University, 2014
47. *Scaling limits in diffusion exit problems*, Courant–Columbia Probability Morning, 2014.
48. *Noisy heteroclinic networks and sequential decision making*, Lefschetz Center for Dynamical Systems Seminar, Brown University, 2014
49. *Burgers equation with random forcing*, Probability Seminar, Columbia University, 2014.
50. *Burgers equation with random forcing*, Working Seminar on random Hamilton-Jacobi equations, Toronto, 2014.
51. *Space-time stationary solutions of Burgers equation with random forcing* at an invited section “Stochastic PDEs”, 37th Conference on Stochastic Processes and Their Applications, Buenos-Aires, 2014.
52. *Space-time stationary solutions of Burgers equation with random forcing*, Workshop “KPZ universality class”, Toulouse, France, 2014.
53. *Space-time stationary solutions of Burgers equation with random forcing*, Colloquium, Georgia State University, Atlanta, 2014.
54. *Scaling limits for the exit problem for conditioned diffusions via Hamilton-Jacobi equations*, Probability Seminar, Purdue University, West Lafayette, IN 2014
55. *Scaling limits for the exit problem for conditioned diffusions via Hamilton-Jacobi equations*, Probability Seminar, University of Maryland, 2013
56. *Scaling limits for the exit problem for conditioned diffusions via Hamilton-Jacobi equations*, Probability Seminar, University of Illinois at Urbana Champaign, 2013
57. *Scaling limits for the exit problem for conditioned diffusions via Hamilton-Jacobi equations*, Probability Seminar, University of Virginia, 2013
58. *Scaling limits for the exit problem for conditioned diffusions via Hamilton-Jacobi equations*, Stochastics Seminar, Georgia Tech, 2013
59. *Space-time stationary solutions of Burgers equation with random forcing* at an invited section “Stochastic Dynamics”, 36th Conference on Stochastic Processes and Their Applications, University of Colorado Boulder, CO, 2013.
60. *Space-time stationary solutions of Burgers equation with random forcing* Summer school on KPZ equations and rough paths, Lebesgue Center, Rennes, France, 2013
61. *Space-time stationary solutions of Burgers equation with random forcing*, Workshop “Probability and PDEs”, Centro de Giorgi, Pisa, Italy, 2013
62. *Invariant densities for dynamical systems with random switching* Conference on piecewise deterministic Markov processes, Lebesgue Center, Rennes, France, 2013
63. *Space-time stationary solutions of Burgers equation with random forcing* Colloquium at Courant Institute, NYU, New York City, 2013.
64. *Space-time stationary solutions of Burgers equation with random forcing*, Probability Seminar, University of Maryland, 2012.

65. *Space-time stationary solutions of Burgers equation with random forcing*, Random Dynamical Systems workshop at IMA, University of Minnesota, 2012.
66. *Space-time stationary solutions for the Burgers equation with random forcing*, invited talk at the conference “Modern Stochastics: theory and applications III” dedicated to 100th anniversary of B.V. Gnedenko and 80th anniversary of M.I. Yadrenko, Taras Shevchenko National University of Kyiv, Ukraine, 2012.
67. *Space-time stationary solutions for the Burgers equation with random forcing*, Stochastics seminar, Georgia Tech, 2012.
68. *Stationary solutions of the Burgers equation with random force*, Sinai’s seminar, Institute for Information Transmission Problems, Moscow, Russia, 2012.
69. *Noisy heteroclinic networks and sequential decision making*, Research group seminar at ZiF, Bielefeld, Germany. 2012
70. *Space-time stationary solutions for the Burgers equation*, invited talk at Workshop “Stochastic Dynamics in Action”, ZiF, Bielefeld, Germany, 2012
71. *Randomly forced Burgers equation in noncompact setting*, Stochastics Seminar, University of Utah, Salt Lake City, Utah, 2012
72. *Randomly forced Burgers equation in noncompact setting*, Toronto Probability Seminar, Fields Institute, Toronto, Canada, 2012
73. *Noisy heteroclinic networks and sequential decision making*, Applied Mathematics/Dynamics Seminar, Courant Institute, NYU, New York City, 2012.
74. *Randomly forced Burgers equation in noncompact setting*, Probability/PDE/Dynamics Seminar, Courant Institute, NYU, New York City, 2012.
75. *Noisy heteroclinic networks*, Applied Mathematics Seminar in Barcelona, Spain, 2012.
76. *Burgers equation with Poissonian forcing*, a section talk at SIAM PDE Meeting, San Diego, 2011
77. *Burgers equation with Poissonian forcing*, Second International Conference on Random Dynamical Systems, Nanjing, China, 2011
78. *Burgers equation with Poissonian forcing*, Stochastics and Dynamics Meeting at Brown, Providence, RI, 2011
79. *Burgers equation with Poissonian forcing*, Stochastics Seminar at Georgia Tech, 2011
80. *Noisy heteroclinic networks and sequential decision making*, Colloquium at University of Arizona, 2011
81. *Burgers equation with Poissonian forcing*, 2011 IISA Conference on Probability, Statistics, and Data Analysis, Raleigh, NC, 2011
82. *Noisy heteroclinic networks and sequential decision making*, Denton Workshop on Complex Networks, Denton, TX, 2011
83. *Burgers equation with Poissonian forcing*, Workshop on Interacting Processes in Random Environments, Toronto, 2011
84. *Noisy heteroclinic networks and sequential decision making*, Probability seminar at Arizona State University, 2010
85. *Dynamical models of sequential decision making: a probabilist’s point of view*, Georgia Tech School of Applied Physiology, 2010

86. *Dynamical models of sequential decision making: a probabilist's point of view*, Mathematical Biology and Ecology Seminar at Georgia Tech, 2010
87. *Noisy heteroclinic networks and sequential decision making*, Stochastics and Dynamics: Asymptotic Problems, University of Maryland, 2010
88. *Noisy heteroclinic networks*, Probability Seminar at Carnegie Melon, Pittsburgh, PA, 2010
89. *Dynamical models of sequential decision making: a probabilist's point of view*. Workshop "Decision Making: A Psychophysics Application of Network Science", University of North Texas, Denton, TX, 2010
90. *Small noise asymptotics for noisy heteroclinic networks*, Third Workshop on Random Dynamical Systems, Bielefeld, Germany, 2009
91. *Diffusion approximation for random trees with SPDEs*, Mini-course (2 lectures) at Summer Academy on Stochastic Geometry, Spatial Statistics and Random Fields, Hirschegg, Germany, 2009.
92. *Random trees and SPDE approximation*, Columbia University, New York, 2009
93. *Localization and Perron–Frobenius theory for directed polymers*, Stochastic Processes and Applications (SPA), Berlin, Germany, 2009
94. *Random trees and SPDE approximation*, Dobrushin Conference, Moscow, Russia, 2009
95. *Random trees and SPDE approximation*, Stochastic Analysis and Random Dynamical Systems, Lviv, Ukraine, 2009
96. *Noisy heteroclinic networks: small noise asymptotics*, Probability/Dynamical Systems Seminar at University of Toronto, Canada, 2009
97. Continuum random tree: SPDE approximation for Gibbs random trees, Probability/Dynamical Systems Seminar at University of Toronto, Canada, 2009
98. *Random trees and SPDE approximation*, Stochastics Seminar, Georgia Tech, 2009
99. *Random trees under Gibbs distributions and SPDE approximation*, Dynamics and Statistics of Spatially Extended Systems Workshop, Banff, Canada, 2009
100. *SPDE limit for random trees*, Special Session on Stochastic Dynamics at 2009 Spring Southeastern AMS Sectional Meeting, Raleigh, NC, 2009
101. *Noisy heteroclinic networks: small noise asymptotics*, Probability Seminar at Rochester University, 2008.
102. *Thermodynamic limit for random plane trees*. Special Session on Probability on Discrete and Algebraic structures at 2008 Fall Southeastern AMS Sectional Meeting, Huntsville, AL
103. *Infinite volume limit for random trees*, Probability Working Seminar, Georgia Tech, 2008
104. *Noisy heteroclinic networks: small noise asymptotics*, Sinai's Seminar on Dynamical Systems, Moscow State University, Moscow, Russia, 2008
105. *Noisy heteroclinic networks: small noise asymptotics*, Dynamical Systems Seminar at Courant Institute, New York, 2008
106. *Noisy heteroclinic networks: small noise asymptotics* Stochastics Seminar, Georgia Tech, 2008

107. *Noisy heteroclinic networks: small noise asymptotics*, Probability Seminar, University of Maryland, College Park, MD, 2007
108. *Noisy heteroclinic networks: small noise asymptotics*, Applied Mathematics Seminar, Duke University, Durham, NC, 2007
109. *Noisy heteroclinic networks: small noise asymptotics*, Lefschetz Center for Dynamical Systems Seminar, Brown University, Providence, RI, 2007
110. *Smooth transition densities for Stochastic PDEs. Malliavin calculus in infinite dimensions*, Analysis Seminar, Georgia Tech, Atlanta, GA, 2007
111. *Smooth transition densities for Stochastic PDEs. Malliavin calculus in infinite dimensions*, Stochastics Seminar, Georgia Tech, Atlanta, GA, 2007
112. *A Large Deviation Principle for random trees with applications to RNA secondary structure*, Mathematical Biology and Ecology Seminar, Georgia Tech, 2007
113. *Skew-invariant attracting solutions for parabolic models with localization*, 32nd Conference on Stochastic Processes and their Applications at University of Illinois at Urbana-Champaign, IL, 2007
114. *Stationary solutions of the Burgers equation with random boundary conditions*, 32nd Conference on Stochastic Processes and their Applications at University of Illinois at Urbana-Champaign, IL, 2007
115. *Skew-invariant attracting solutions for parabolic models with localization*, Sinai's Seminar on Dynamical Systems, Moscow State University, Moscow, Russia, 2007,
116. *A characterization of harmonic measures on laminations by hyperbolic Riemann Surfaces*, Sinai's Seminar on Dynamical Systems, Moscow State University, Moscow, Russia, 2007
117. *Smooth densities for Stochastic Partial Differential Equations*, Stochastic PDE Workshop, Cornell University, Ithaca, NY, 2007
118. *Diffusion about unstable equilibrium points and heteroclinic networks*, Stochastic Dynamical Systems and Control Workshop, Mathematical Sciences Research Institute, Berkeley, CA, 2007
119. *Localization and skew-invariant solutions of parabolic models*, Stochastics Seminar, Georgia Tech, Atlanta, GA, 2006
120. *Existence and uniqueness of stationary solutions for 3D Navier-Stokes system with small random forcing via stochastic cascades*, Analysis Seminar, McMaster University, ON, Canada, 2006
121. *Malliavin calculus in infinite dimensions*, Toronto Probability Seminar, Toronto, ON, Canada, 2006
122. *Random trees and stationary solutions of randomly forced 3D Navier-Stokes system*, Toronto Probability Seminar, Toronto, ON, Canada, 2005
123. *Malliavin calculus in infinite dimensions*, Sinai's Seminar on Dynamical Systems, Moscow State University, Moscow, Russia, 2005
124. *Navier-Stokes: Invariant Measures and Cascades*, SIAM Conference on Applications of Dynamical Systems in Snowbird, UT, 2005
125. *Regularity of Solutions to Vorticity Navier-Stokes System on the plane*, Workshop on Deterministic and Stochastic Navier-Stokes, American Institute of Mathematics, Palo Alto, CA, 2005

126. *Stationary solutions for the Navier-Stokes system with random forcing in 2D and 3D*, Job Candidate Seminar, Georgia Tech, Atlanta, GA, 2005
127. *Stationary solutions for the Navier-Stokes system with random forcing in 2D and 3D*, Joint Differential Equations and Probability Seminar, NC State University, Raleigh, NC, 2005
128. *Random trees and stationary solutions of randomly forced 3D Navier–Stokes system*, Sinai’s Seminar on Dynamical Systems, Moscow State University, Moscow, Russia, 2004
129. *Regularity of Solutions to Vorticity Navier–Stokes System on the plane*, Gurevich–Oseledec’s Seminar on Statistical Mechanics and Dynamical Systems, Moscow State University, Moscow, Russia, 2004
130. *Stationary solutions of stochastic equations with memory*, Statistical Mechanics Seminar, Institute for Advanced Study, Princeton, NJ, 2003
131. *Stationary solutions of stochastic equations with memory*, Analysis Seminar, California Institute of Technology, Pasadena, CA, 2003
132. *Stationary solutions of stochastic equations with memory*, Kolmogorov And Contemporary Mathematics conference, Moscow State University, Moscow, Russia, 2003
133. *Stationary solutions of stochastic equations with memory*, Statistics seminar, University of Leeds, England, 2003
134. *Stationary solutions of stochastic equations with memory*, Stochastics Seminar, University of Kansas, Lawrence, KA, 2003
135. *Stationary solutions of the Burgers equation with random forcing*, Dobrushin Seminar, Institute for Information Transmission Problems, Moscow, Russia, 2002
136. *Coupling approach to stationary solutions of the Navier–Stokes system in 2D*, Gurevich–Oseledec’s Seminar on Statistical Mechanics and Dynamical Systems, Moscow State University, Moscow, Russia, 2001
137. *Stationary solutions of stochastic equations with memory*, Gurevich–Oseledec’s Seminar on Statistical Mechanics and Dynamical Systems, Moscow State University, Moscow, Russia, 2001
138. *Shock waves for stationary solutions of randomly forced Burgers equation*, Sinai’s Seminar on Dynamical Systems, Moscow State University, Moscow, Russia, 2002
139. *Limit theorems for the Burgers equation with random initial data*, Dobrushin Seminar, Institute for Information Transmission Problems, Moscow, Russia, 2001
140. *Limit theorems for the Burgers equation with random initial data*, Gurevich–Oseledec’s Seminar on Statistical Mechanics and Dynamical Systems, Moscow State University, Moscow, Russia, 2001
141. *Probabilistic problems for the Burgers equation*, Moscow Mathematical Society Colloquium, Moscow, Russia, 2001
142. *Limit theorems for the Burgers equation with random initial data*, Shiryaev’s Probability Seminar, Moscow State University, Moscow, Russia, 2001
143. *Limit theorems for the Burgers equation with random initial data*, Ibragimov’s Probability Seminar, St.Petersburg Steklov Mathematical Institute, Moscow, Russia, 2000
144. *Limit theorems for the Burgers equation with random initial data*, Center for Mathematical Physics and Stochastics, Aarhus, Denmark, 2000

145. *Limit theorems for the Burgers equation with random initial data*, Sinai's Seminar on Dynamical Systems, Moscow State University, Moscow, Russia, 2000
146. *A functional central limit theorem for transformed solutions of the multidimensional Burgers equation with random initial data*, Kolmogorov Conference, Moscow, Russia, 2000
147. *A functional central limit theorem for random solutions of the Burgers equation*, Kolmogorov Conference, Moscow, Russia, 1999
148. *Limit theorems for the Burgers equation with random initial data*, 11th European Young Statisticians Meeting patronized by the Bernoulli Society, Marly-le-Roi, France, 1999

REGULAR SCHOOL YEAR TEACHING

- | | |
|------|--|
| 2020 | Probability: Limit Theorems II, Courant Institute |
| 2019 | Honors III (Intro to Stochastic Processes), Courant Institute |
| 2019 | Ergodic theory of stochastic PDEs, joint advanced topics course with J.Shatah and P.Germain, Courant Institute |
| 2019 | Probability: Limit Theorems II, Courant Institute |
| 2018 | Probability: Limit Theorems II, Courant Institute |
| 2018 | Basic Probabilty, Courant Institute |
| 2017 | Probability and Statistics, Courant Institute |
| 2016 | Basic Probabilty, Courant Institute |
| 2015 | Topics course on ergodic theory of Markov processes, Courant Institute |
| 2015 | Probability: Limit Theorems II, Courant Institute |
| 2014 | Probability: Limit Theorems I, Courant Institute |
| 2014 | MATH 2014 (Calculus III), Georgia Tech |
| 2014 | MATH 8803 (Topics course on ergodic theory of Markov processes), Georgia Tech |
| 2013 | MATH 3215 (Introduction to Probability and Statistics), Georgia Tech |
| 2013 | MATH 7245 (Stochastic Processes and Stochastic Calculus II), Georgia Tech |
| 2012 | MATH 7244 (Stochastic Processes and Stochastic Calculus I), Georgia Tech |
| 2011 | MATH 7244 (Stochastic Processes and Stochastic Calculus I), Georgia Tech |
| 2011 | MATH 3215 (Introduction to Probability and Statistics), Georgia Tech |
| 2010 | MATH 6235 (Stochastic Processes in Finance II) |
| 2010 | MATH 6221 (Advanced Classical Probability Theory), Georgia Tech |
| 2009 | MATH 1502 (Calculus II), Georgia Tech |
| 2009 | MATH 3215 (Introduction to Probability and Statistics), Georgia Tech |
| 2009 | MATH 4221 (Stochastic Processes), Georgia Tech |
| 2008 | MATH 7245 (Stochastic Processes and Stochastic Calculus II), Georgia Tech |

- 2008 MATH 4221 (Stochastic Processes), Georgia Tech
- 2008 MATH 7244 (Stochastic Processes and Stochastic Calculus I), Georgia Tech
- 2007 MATH 7245 (Stochastic Processes and Stochastic Calculus II), Georgia Tech
- 2007 MATH 7244 (Stochastic Processes and Stochastic Calculus I), Georgia Tech
- 2006 MATH 6242 (Probability II), Georgia Tech
- 2006 Math 212 (Differential equations), University of Toronto
- 2005 Math 196 (Calculus A), University of Toronto
- 2005 Two sections of Math 108 (Ordinary and Partial Differential Equations), Duke University
- 2004 Math 111 (Applied Mathematical Analysis I), Duke University
- 2004 Math 114 (Applied Mathematical Analysis II), Duke University
- 2001 Special graduate course on Probabilistic Problems for the Burgers Equation, Moscow State University, Moscow, Russia (joint with A.V.Bulinski)
- 2001 Special undergraduate probability course, Moscow State University, Moscow, Russia (joint with A.V.Bulinski)
- 2001 Regular undergraduate probability course, Moscow State University, Moscow, Russia

OTHER TEACHING

- 2017 *Entropy factor, or why improbable events happen*. Lecture at cSplash (Courant Institute) for high school students.
- 2003 *Topics in Probability at Integral* Summer Camp for high school students, Volgograd, Russia.
- 1996-1998 Weekend advanced mathematics for high school students at Moscow State University, Moscow, Russia.
- 1999-2002, 2004 Math tutoring.

PROGRAM AND WORKSHOP PARTICIPATION

- KPZ Universality and Directed Polymers, Luminy, France, 2017
- Perspectives in Analysis and Probability Program at Lebesgue Center, Rennes, France, 2013
- Renormalization Group Methods for Polymer and Last Passage Percolation Models — Research in small groups, BIRS, Banff, Canada, July 2012
- Research group on Stochastic Dynamics: Mathematical Theory and Applications, ZiF, Bielefeld, Germany, Summer, 2012
- Thematic Program on Dynamics and Transport in Disordered Systems, Fields Institute, Toronto, ON, Canada, Spring 2011
- Program on Stochastic Dynamics at SAMSI, Research Triangle Park, NC, 2009–2010
- Program on Renormalization at Fields Institute, Toronto, ON, Canada, Fall 2005

Conformal Invariance and Random Spatial Processes, Nato Advanced Study Institute, Edinburgh, Scotland, July 2003

Program on Stochastic Partial Differential Equations, IAS, Princeton, NJ, 2002–2003

Workshop on Percolation, Center for Mathematical Physics and Stochastics, Copenhagen, Denmark, August, 2000

Workshop on Lévy Processes, Center for Mathematical Physics and Stochastics, Aarhus, Denmark, August, 2000

EDITORIAL WORK

2015–2020 Associate Editor of SIAM Journal on Mathematical Analysis (SIMA)

2018–2020 Associate Editor of SIAM Journal on Applied Dynamical Systems (SIADS)

JOURNAL REFEREE

Advances in Mathematics,

Annales de l'Institut Henri Poincaré,

Annals of Applied Probability,

Annals of Mathematics,

Annals of Probability,

Annals of Statistics,

Asymptotic Analysis,

Chaos,

Communications on Pure and Applied Mathematics,

Electronic Journal of Probability,

European Journal of Physics,

Journal of Differential Equations,

Journal of Dynamics and Differential Equations

Journal of Mathematical Physics,

Journal of Physics A,

Nonlinearity,

Philosophical Transactions A

Proceedings of the AMS,

Probability Surveys,

Probability Theory and Related Fields,
 SIAM Journal on Applied Dynamical Systems,
 SIAM Journal on Applied Mathematics,
 SIAM Journal on Mathematical Analysis,
 SIGMA,
 Stochastics and Dynamics,
 Stochastic Processes and their Applications,
 Transactions of AMS

GRANT PROPOSAL REVIEWER/PANELIST

various years: Panelist and Referee at National Science Foundation; External Referee for Romanian National Council for Scientific Research, Israel Science Foundation, Swiss Science Foundations.

PH.D. STUDENTS SUPERVISED

2022	Hong-Bin Chen (Courant)
2020	Donghyun Seo (Courant)
2019	Liyang Li (Courant)
2014	Tobias Hurth (Georgia Tech)
2011	Sergio Angel Almada Monter (Georgia Tech)

POSTDOC SUPERVISED

2021–2023	Alexander Dunlap (Courant)
2015–2018	Zsolt Pajor-Gyulai (Courant)

SHORT-TERM STUDENT RESEARCH PROJECTS MENTORED

2012	Gautam Goel: Modeling decision making times (Fall REU)
2012	Gautam Goel: Statistics of Burgers equation (Summer REU)
2009	Dustin Burns: Kinetics of stress adaptation in cells (Summer REU)
2008	Spencer Nettleton: Optimal paths in random potential (Summer REU)
2007	Liangda Huang: Statistics of planctonic copepod trajectories (jointly mentored with Prof.'s L.Bunimovich and J.Yen)

PH.D. THESIS COMMITTEES

- 2020 Donghyun Seo
- 2019 Reza Gheissari, Guillaume Dubach, Liying Li, Alexis Gaál (Courant)
- 2018 Tianqi Zhu, Zhe Wang (Courant), John Dever (Georgia Tech)
- 2017 Mihai Nica, Halyun Jeong (Courant)
- 2016 Alex Blumenthal, Insuk Seo (Courant)
- 2015 Allen Hoffmeyer (Georgia Tech),
- 2014 Tobias Hurth (Georgia Tech), Alberto Amato (Aerospace Engineering, Georgia Tech),
- 2012 Jinyong Ma, Yao Li, Stanislav Minsker, Ruoting Gong (Georgia Tech)
- 2011 Sergio Angel Almada Monter, Amit Einav, Ricardo Restrepo Lopez, Benjamin Webb (Georgia Tech), Pan Zhou (ECE, Georgia Tech)
- 2010 Ian Palmer (Georgia Tech),
- 2008 John Pearson, Trevis Litherland, Alex Yurchenko, Hua Xu (Georgia Tech)

EVENT ORGANIZATION

- 2017 Organizer of Qualitative Methods in KPZ Universality Conference in Luminy, France
- 2015- On the Scientific Committee for Northeast Probability Seminar. In 2015 and 2018 local organizer at Courant. Since 2017, Co-PI on the NSF grant supporting the conference
- 2014 Organizer of Summer School on SPDEs at MSRI, Berkeley
- 2009-2011, 2012-2013 Coordinator of the Stochastics Seminar at Georgia Tech
- 2012 Organizer of Southeast Probability Meeting at Duke University, Durham, NC
- 2010 Organizer of Workshop on Stochastic Dynamics at SAMSI, Research Triangle Park, NC
- 2008-2011 Organizer of the Probability Working Seminar at Georgia Tech
- 2009 Co-organizer of VC (Vapnik–Chervonenkis) days at Georgia Tech, jointly with College of Computing
- 2009 Organizer of a Session on Stochastic Dynamics at Southeast AMS Meeting.

SERVICE AT COURANT INSTITUTE

- 2015-2019 Director of Graduate Studies for the Masters program in Mathematics.
- Since 2014 Multiple other regular tasks: undergraduate counselling, oral exams, committees etc.

SERVICE AT GEORGIA TECH

2006–2014 Multiple committees, panels, talks, oral exams, program participation.

CONTACT INFORMATION

Work address

Courant Institute of Mathematical Sciences
New York University
251 Mercer Street
New York, N.Y. 10012-1185
USA

Email: bakhtin@cims.nyu.edu

Webpage: <http://www.cims.nyu.edu/~bakhtin/>