Leonid Petrov. Curriculum Vitae

For a brief version see `https://lpetrov.cc/research/petrovCVbrief.pdf`

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Research areas

Probability, Mathematical Physics, Algebraic Combinatorics, Representation Theory.

Education

2007–2010: Ph.D. studies,
Institute for Information Transmission Problems (Moscow, Russia).
Advisor: Grigori Olshanski.
Thesis "Markov Chains on Partitions and Infinite–Dimensional Diffusion Processes".

2002–2007: Diploma with excellence,
Lomonosov Moscow State University (Russia),
Department of Mathematics and Mechanics, Chair of Probability.

1997–2002: Moscow High School No. 2.

Employment

Since 2019: Associate Professor
at Department of Mathematics, University of Virginia, Charlottesville, VA, USA.

2014–2019: Assistant Professor
at Department of Mathematics, University of Virginia, Charlottesville, VA, USA.

2017–2018: Visiting Assistant Professor
at Department of Mathematics, MIT, Cambridge, MA, USA.

2011–2014: Research Instructor
at Department of Mathematics, Northeastern University, Boston, MA, USA.

2009–2011: Research associate
at Dobrushin Mathematics Laboratory, Institute for Information Transmission Problems, Moscow, Russia (on leave since 2011).

Scholarships/prizes/funding

2020–2025: Simons Collaboration Grant for Mathematicians 709055 "Distributional symmetries in stochastic systems", $42,000.

2019: The 2020 Bernoulli prize for an outstanding survey article in probability (jointly with Alexei Borodin for the paper *Integrable probability: From representation theory to Macdonald processes*)

2018-2019: NSF DMS conference grant 1839534 "Workshop on Representation Theory, Combinatorics, and Geometry", amount $15,000 (PI with co-PIs Jennifer Morse and Weiqiang Wang).

2017: Simons Foundation Collaboration Grant for Mathematicians. Recommended for funding but not awarded due to the receipt of the NSF DMS grant 1664617 (as per the rules of Collaboration Grants).

2017–2021: NSF DMS grant 1664617 "FRG: Collaborative Research: Integrable Probability". Joint with PIs Jinho Baik (University of Michigan), Alexei Borodin, Vadim Gorin (MIT), and Ivan Corwin (Columbia University). Amount: $193,453 (UVA part).

2016–2017: NSF DMS conference grant 1663552 "2017 Seminar on Stochastic Processes", amount $46,020.00 (co-PI with PI Tai Melcher and another co-PI Christian Gromoll).

2015: Prize of the Moscow Mathematical Society.

2014–2015: EDF Fellowship of the University of Virginia.

2014: AMS/NSF Travel Grant Award for ICM 2014.

2011–2013: RFBR–CNRS grant 11-01-93105 "Representation theory and noncommutative geometry".

2010–2012: RFBR–CNRS grant 10-01-93114 "New models of Markov processes on point configurations. Applications to stochastic queueing networks".

2010: Dynasty foundation fellowship for young scientists.

2010: Silver prize of The Fourteenth Möbius Contest.

2009: Alexander Kuznetsov/Independent University of Moscow graduate student scholarship.

2005, 2006: V. Potatin federal scholarship for academic excellence, leadership and creativity.

Publications

Preprints (∗), accepted, or published

[37] (∗) *Refined Cauchy identity for spin Hall-Littlewood symmetric rational functions*, arXiv:2007.10886 [math.CO].

[36] (∗) (with Matteo Mucciconi) *Spin q-Whittaker polynomials and deformed quantum Toda*, arXiv:2003.14260 [math.PR]. Submitted.

[35] (with Mikhail Tikhonov) *Parameter symmetry in perturbed GUE corners process and reflected drifted Brownian motions*, arXiv:1912.08671 [math.PR]. Journal of Statistical Physics, to appear.

[34] (∗) *Parameter permutation symmetry in particle systems and random polymers*, arXiv:1912.06067 [math.PR]. Submitted.

[33] *PushTASEP in inhomogeneous space*, arXiv:1910.08994 [math.PR]. Electronic Journal of Probability, vol. 25 (2020), paper no. 114.

[32] (∗) (with Axel Saenz) *Mapping TASEP back in time*, arXiv:1907.09155 [math.PR]. Submitted.

[31] (with Alexey Bufetov and Matteo Mucciconi) *Yang-Baxter random fields and stochastic vertex models*, arXiv:1905.06815 [math.PR]. Advances in Mathematics, to appear.

[30] (with Ivan Corwin and Konstantin Matveev) *The q-Hahn PushTASEP*, arXiv:1811.06475 [math.PR]. Intern. Math. Research Notices (2019), rnz106.

[29] (with Alisa Knizel and Axel Saenz) *Generalizations of TASEP in discrete and continuous inhomogeneous space*, Commun. Math. Phys. 372 (2019), no. 3, pp 797–864. `https://link.springer.com/article/10.1007%2Fs00220-019-03495-4`. arXiv:1808.09855 [math.PR].

[28] (with Christian Gromoll, Mark Meckes) *Quenched Central Limit Theorem in a Corner Growth Setting*, Electron. Comm. Probab. 23 (2018) paper no. 101, 12pp, arXiv:1804.04222 [math.PR].

[27] (with Alexey Bufetov) *Yang-Baxter field for spin Hall-Littlewood symmetric functions*, arXiv:1712.04584 [math.PR]. Forum of Mathematics Sigma, 7 (2019), e39.

[26] (with Michael Damron and David Sivakoff) *Coarsening model on $\mathbb{Z}^d$ with biased zero-energy flips and an exponential large deviation bound for ASEP*, Comm. Math. Phys. 362 (2018) no. 1, 185–217, arXiv:1708.05806 [math.PR].

[25] (with Sevak Mkrtchyan) *GUE corners limit of q-distributed lozenge tilings*, Electron. J. Probab. 22 (2017), paper no. 101, 24 pp, arXiv:1703.07503 [math.PR].

[24] (with Alexei Borodin) *Inhomogeneous exponential jump model*, Probab. Th. Rel. Fields 172 (2018) 323-385, arXiv:1703.03857 [math.PR].

[23] (with Daniel Orr) *Stochastic higher spin six vertex model and q-TASEPs*, Advances in Mathematics 317 (2017), 473-525, arXiv:1610.10080 [math.PR].

[22] (with Vadim Gorin) *Universality of local statistics for noncolliding random walks*, Ann. Probab. (2019), Vol. 47, No. 5, 2686-2753. arXiv:1608.03243 [math.PR].

[21] (with Alexei Borodin) *Lectures on Integrable probability: Stochastic vertex models and symmetric functions* (2016), arXiv:1605.01349 [math.PR]. Lecture Notes of the Les Houches Summer School, Volume 104, July 2015.

[20] (with Alexei Borodin) *Higher spin six vertex model and symmetric rational functions* (2016), Selecta Math. 24 (2018), no. 2, 751–874, DOI: 10.1007/s00029-016-0301-7 arXiv:1601.05770 [math.PR].

[19] (with Konstantin Matveev) *q-randomized Robinson–Schensted–Knuth correspondences and random polymers* (2015), Annales de l'Institut Henri Poincaré D: Combinatorics, Physics and their Interactions 4 (2017), no. 1, 1-123, arXiv:1504.00666 [math.PR].

[18] (with Ivan Corwin) *Stochastic higher spin vertex models on the line*, Comm. Math. Phys. 343 (2016), no. 2, 651–700, DOI: 10.1007/s00220-015-2479-5, arXiv:1502.07374 [math.PR].

[17] (with Alexei Borodin, Ivan Corwin, and Tomohiro Sasamoto) *Spectral theory for interacting particle systems solvable by coordinate Bethe ansatz*, Comm. Math. Phys. 339 (2015), no. 3, 1167–1245, DOI: 10.1007/s00220-015-2424-7, arXiv:1407.8534 [math-ph].

[16] (with Alexey Bufetov) *Law of Large Numbers for Infinite Random Matrices over a Finite Field*, Selecta Math. 21 (2015), no. 4, 1271–1338, arXiv:1402.1772 [math.PR].

[15] (with Alexei Borodin) *Integrable probability: From representation theory to Macdonald processes*, Probability Surveys 11 (2014), 1–58, arXiv:1310.8007 [math.PR].

[14] (with Alexei Borodin, Ivan Corwin, and Tomohiro Sasamoto) *Spectral theory for the q-Boson particle system*, Compositio Mathematica 151 (2015), no. 1, 1–67, arXiv:1308.3475 [math-ph].

[13] (with Ivan Corwin) *The q-PushASEP: A New Integrable Model for Traffic in 1+1 Dimension*, Journal of Statistical Physics, 160 (2015), no. 4, 1005–1026, arXiv:1308.3124 [math.PR].

[12] (with Alexei Borodin) *Nearest neighbor Markov dynamics on Macdonald processes*, Advances in Mathematics, 300 (2016), 71–155. Special volume honoring Andrei Zelevinsky. arXiv:1305.5501 [math.PR].

[11] *The Boundary of the Gelfand-Tsetlin Graph: New Proof of Borodin-Olshanski's Formula, and its q-analogue*, Moscow Mathematical Journal 14 (2014) no. 1, 121–160, arXiv:1208.3443 [math.CO].

[10] *Asymptotics of Uniformly Random Lozenge Tilings of Polygons. Gaussian Free Field*, Annals of Probability 43 (2014), no. 1, 1–43, arXiv:1206.5123 [math.PR].

[9] *Asymptotics of Random Lozenge Tilings via Gelfand-Tsetlin Schemes*, Probability Theory and Related Fields 160 (2014), no. 3, 429–487, arXiv:1202.3901 [math.PR].

[8] $\mathfrak{sl}(2)$ *Operators and Markov Processes on Branching Graphs*, Journal of Algebraic Combinatorics 38 (2013), no. 3, 663–720, arXiv:1111.3399 [math.CO].

[7] *On Measures on Partitions Arising in Harmonic Analysis for Linear and Projective Characters of the Infinite Symmetric Group* (2011), Proceedings of the international conference "50 years of IITP", arXiv:1107.0676 [math.CO].

[6] *Pfaffian Stochastic Dynamics of Strict Partitions*, Electronic Journal of Probability 16 (2011), 2246–2295, arXiv:1011.3329 [math.PR].

[5] *Random Strict Partitions and Determinantal Point Processes*, Electronic Communications in Probability 15 (2010), 162–175, arXiv:1002.2714 [math.PR].

[4] *Random Walks on Strict Partitions*, Journal of Mathematical Sciences 168 (2010), no. 3, 437–463, arXiv:0904.1823 [math.PR].

[3] *Limit Behavior of Certain Random Walks on Strict Partitions*, Russian Mathematical Surveys 64 (2009), no. 6, 1139–1141.

[2] *A Two-parameter Family of Infinite-dimensional Diffusions in the Kingman Simplex*, Functional Analysis and Its Applications 43 (2009), no. 4, 279–296, arXiv:0708.1930 [math.PR].

[1] *Asymptotic Behavior of a Certain Collection of Particles on a Line Under Synchronization*, Proceedings of the XXVIII Conference of Young Scientists of Department of Mechanics and Mathematics of the Lomonosov Moscow State University (2006), 152–156, in Russian.

[1] Sihan Li, Andrew Mecca, Jeewoo Kim, Giusy Caprara, Elizabeth Wagner, Ting-Ting Du, Leonid Petrov, Wenhao Xu, Runjia Cui, Ivan Rebustini, Bechara Kachar, Anthony Peng, and Jung-Bum Shin, *Myosin-VIIa is expressed in multiple isoforms and essential for tensioning the hair cell mechanotransduction complex*. Nature Communications, 11, Article number: 2066 (2020). `https://www.nature.com/articles/s41467-020-15936-z`.

Organization and service

2020: Online conference on Statistical Mechanics, Integrable Systems and Probability

April 27 - May 1, 2020

`http://mtikhonov.com/smisp/`

2020: (**postponed due to COVID-19**) Program "Integrability and combinatorics at finite temperature" at MATRIX Institute, University of Melbourne

June 1-19, 2020

`https://www.matrix-inst.org.au/events/integrability-and-combinatorics-at-finite-temperat`

2020: (**postponed due to COVID-19**) Special Session on Integrable Probability at the 2020 AMS Spring Southeastern Sectional Meeting at University of Virginia
March 13-15, 2020
http://www.ams.org/meetings/sectional/2273_program.html

2019: Virginia Integrable Probability Summer School
May 17 - June 8, 2019
http://vipss.int-prob.org/

2018-19: Reading seminar on Integrable Probability
https://lpetrov.cc/reading-2019/

2018: Workshop on Representation Theory, Combinatorics, and Geometry at University of Virginia
October 19-21, 2018
http://math.virginia.edu/ims/workshop-fall-2018/

2018: Conference "Integrable Probability Boston 2018 (IntProb Boston)" at MIT
May 14-18, 2018
http://frg.int-prob.org/conference2018/

2017+: Developer of the website and forum for the FRG "Integrable Probability"
http://frg.int-prob.org/

2017+: Developer of the University of Virginia Math Department website
http://math.virginia.edu/

2017: Conference "Seminar on Stochastic Processes 2017" at University of Virginia
March 8-11, 2017
http://faculty.virginia.edu/ssp17/

2016-17: Reading seminar on Integrable Probability
https://lpetrov.cc/2016/12/reading-seminar/

2014-17: University of Virginia Probability Seminar
http://math.virginia.edu/seminars/probability/

2014-17: Undergraduate Math Club at the University of Virginia
http://math.virginia.edu/seminars/mathclub/

Talks and conferences

Seminar talks

2020, October	Columbia University Integrable Probability Seminar (online) UVa Math Circle (online)
2020, May	Institute for Information Transmission Problems (Dobrushin Lab Seminar, online)
2020, April	Russian Integrable Probability Seminar (online)
2020, February	University of Connecticut (colloquium and probability seminar)
2019, November	University of Virginia (Department of Physics)
2019, September	Tulane University
2019, May	Virginia Tech
2019, February	Kansas State University University of Kansas (colloquium)
2019, January	University of Minnesota
2018, December	Rutgers University
2018, November	University of Utah
2018, October	University of Warwick
2018, May	MIT
2018, March	MIT
2018, February	University of California, Davis University of California, San Diego University of California, Los Angeles
2018, January	Skoltech Center for Advances Studies (Moscow, Russia)
2017, November	Columbia University Northeastern University
2017, October	Brandeis University
2017, August	Institute for Information Transmission Problems (Dobrushin Lab Seminar)
2017, January	Case Western Reserve University

2016, May	MIT
2016, March	University of Rochester
2016, March	University of California, Davis
2016, January	University of Wisconsin, Madison
2015, December	MSU (Meeting of the Moscow Mathematical Society)
2015, October	Penn/Temple Probability Seminar
2015, August	Institute for Information Transmission Problems (Dobrushin Lab Seminar)
2015, May	Imperial College London
2015, March	University of Michigan
2014, November	Virginia Tech
2014, September	Duke University
2014, February	MIT
2014, January	Purdue University University of British Columbia
2013, December	University of Colorado, Boulder Penn State University Worcester Polytechnic Institute University of Virginia Carnegie Mellon University
2013, November	University of Minnesota Penn State University
2013, October	University of Southern California University of California, Los Angeles Rutgers University
2013, June	Institute for Information Transmission Problems (Dobrushin Lab Seminar)
2013, March	Independent University of Moscow (General Seminar "Globus")

2013, February	Arizona State University
2012, October	Princeton University Columbia University
2012, September	MIT
2012, August	Institute for Information Transmission Problems (Yakov Sinai's Seminar)
2012, March	New York University
2011, October	Brown University University of Michigan
2011, May	Alfréd Rényi Institute of Mathematics Budapest University of Technology and Economics
2008, October	St. Petersburg Department of Steklov Mathematical Institute

In addition to that, I have presented results of my research in a number of talks given at various research seminars in Moscow, Russia (at Moscow State University, Institute for Information Transmission Problems, Independent University of Moscow, etc.) in 2005–2011, at Northeastern University, Boston, MA, USA in 2011–2014, and at University of Virginia, Charlottesville, VA, USA since 2014.

Conference talks

48. New Connections in Integrable Systems (online), September 2020. Organized by Valentin Buciumas and Ole Warnaar.

47. Central and invariant measures and applications (online), August 2020. Organized by St. Petersburg Department of V. A. Steklov Mathematical Institute; Euler International Institute.

46. CMI-HIMR Integrable Probability Summer School (online), August 2020. Organized by Clay Mathematics Institute, the Heilbronn Institute for Mathematical Research, the Mathematical Institute at University of Oxford, and the NSF Integrable Probability Focused Research Grant.

45. Workshop on Asymptotic Algebraic Combinatorics at IPAM (UCLA), February 2020, Los Angeles, CA.

44. Joint Mathematics Meetings 2020, January 2020, Denver, CO. *Special session talk.*

43. BIRS Workshop "Dimers, Ising Model, and their Interactions", November 2019, Banff, Canada.

42. AMS Fall Eastern Sectional Meeting at Binghamton University, October 2019, Binghamton, NY. *Two special session talks.*

41. Workshop New Trends in Integrable Systems, September 2019, Osaka, Japan.

40. Workshop on Classical and Quantum Integrable Systems (CQIS-2019), July 2019, St. Petersburg, Russia.

39. Summer School "Contemporary Mathematics" (mini-course in Russian for high school and beginning undergraduate students), July 2019, Dubna, Russia.

38. BIRS Workshop "Asymptotic Algebraic Combinatorics", March 2019, Banff, Canada.

37. Conference "New Frontiers in Representation Theory" dedicated to the 70th birthday of G.I.Olshanski, SkolTech Center for Advances Studies, January 2019, Moscow, Russia.

36. AMS Fall Eastern Sectional Meeting at University of Delaware, September 2018, Newark, DE. *Special session talk.*

35. The 40th Conference on Stochastic Processes and their Applications (SPA2018), June 2018, Gothenburg, Sweden. *Invited session talk.*

34. Integrable Probability Boston 2018 (IntProb Boston) Conference, MIT, May 2018, Cambridge, MA, USA.

33. 2018 Southeastern Probability Conference, Duke University, May 2018, Durham, NC, USA.

32. "Non-equilibrium systems and special functions" program at MATRIX Institute, University of Melbourne, January 2018, Creswick, Victoria, Australia.

31. Meeting of the FRG "Integrable Probability", Columbia University, October 2017, New York, NY, USA.

30. Chern-Simons Workshop "Integrability across mathematics and physics" at University of California, Berkeley, September 2017, Berkeley, CA, USA.

29. International Workshop on Classical and Quantum Integrable Systems (CQIS-2017), July 2017, Moscow, Russia.

28. The 39th Conference on Stochastic Processes and their Applications (SPA2017), July 2017, Moscow, Russia. *Invited session talk.*

27. PCMI Summer Session 2017 "Random Matrices", June–July 2017, Park City, UT, USA.

26. Conference "Qualitative Methods in KPZ Universality", CIRM, April 2017, Marseille, France.

25. Workshop on Asymptotic Representation Theory, Henri Poincaré Institute, February 2017, Paris, France.

24. Clifford Lectures "Random Matrices, Combinatorics and Tiling Problems" (main speaker: Pierre van Moerbeke) at Tulane University, November 2016, New Orleans, LA, USA.

23. Central Spring AMS Sectional Meeting at North Dakota State University, April 2016, Fargo, ND, USA. *Special session talk*.

22. Workshop "Six-vertex model, dimers, shapes, and all that" at the Simons Center for Geometry and Physics, March 2016, Stony Brook, NY, USA.

21. Program "New Approaches to Non-equilibrium and Random Systems: KPZ Integrability, Universality, Applications and Experiments" at the Kavli Institute for Theoretical Physics, March 2016, Santa Barbara, CA, USA.

20. Workshop on Classical and Quantum Integrable Systems (CQIS-2015), Institute for High Energy Physics, July 2015, Protvino, Russia. Tutorial lecture *"Integrable probability and Bethe ansatz"*.

19. "Random Interfaces and Integrable Probability" workshop (part of "Statistical Mechanics, Integrability and Combinatorics" program), Galileo Galilei Institute for Theoretical Physics, June 2015, Florence, Italy.

18. "Random Polymers and Algebraic Combinatorics" workshop, Mathematical Institute of the University of Oxford, May 2015, Oxford, UK.

17. "Limit shapes" workshop, ICERM, April 2015, Providence, RI, USA.

16. Central Spring AMS Sectional Meeting at Michigan State University, March 2015, East Lansing, MI, USA. *Special session talk*.

15. Columbia–Princeton Probability Day, March 2015, Princeton, NJ, USA. I was one of the two junior speakers at a one-day seminar series, with a talk *"Eigenfunctions of stochastic integrable particle systems"*.

14. Inhomogeneous Random Systems conference, Henri Poincaré Institute, January 2015, Paris, France.

13. International Congress of Mathematicians, August 2014, Seoul, South Korea. *Contributed talk*.

12. Workshop "From Macdonald Processes to Hecke Algebras and Quantum Integrable Systems" at Henri Poincaré Institute, May 2014, Paris, France.

11. Workshop "Random Matrices and Jacobi Operators" at Mittag-Leffler Institute, May 2014, Stockholm, Sweden.

10. Columbia / Courant Joint Probability Seminar Series on Kardar-Parisi-Zhang Universality. I was one of the three speakers of the seminar series, with a talk *"Markov Dynamics on Macdonald Processes"*. October 2013, New York, NY, USA.
9. Cornell Probability Summer School, July 2013, Ithaca, NY, USA. *Tutorial sessions for the lecture course of A. Borodin, and a short talk.*
8. Random Tilings Workshop at the Simons Center for Geometry and Physics, February 2013, Stony Brook, NY, USA.
7. MSRI "Random Spatial Processes" program, April 2012, Berkeley, CA, USA.
6. Interacting Particle Systems, Growth Models, and Random Matrices Workshop at the University of Warwick, March 2012, Warwick, UK.
5. International conference "50 years of IITP", July 2011, Moscow, Russia.
4. EURANDOM Workshop YEP VIII 2011 "Stochastic Models for Population Dynamics", March 2011, Eindhoven, Netherlands.
3. Mathematics – XXI century. PDMI 70th anniversary, September 2010, St. Petersburg, Russia.
2. PIMS/UBC School in Probability, June 2009, UBC, Vancouver, Canada.
1. Summer School "Large N Limits", August 2008, Bitche, France.

Visits / membership in programs

8. AIM SQuaRE "Young tableau asymptotics", American Institute of Matehmatics, October 2019.
7. "Non-equilibrium systems and special functions" program at MATRIX Institute, University of Melbourne, January 2018, Creswick, Victoria, Australia (2 weeks).
6. PCMI Summer Session 2017 "Random Matrices", June–July 2017, Park City, UT, USA (3 weeks).
5. Collaboration with Daniel Orr, Virginia Tech, June 2016, Blacksburg, VA, USA (4 days).
4. Program "New Approaches to Non-equilibrium and Random Systems: KPZ Integrability, Universality, Applications and Experiments" at the Kavli Institute for Theoretical Physics (University of California, Santa Barbara), February–March 2016, Santa Barbara, CA, USA (3 weeks).
3. Program "Statistical Mechanics, Integrability and Combinatorics", Galileo Galilei Institute for Theoretical Physics, June 2015, Florence, Italy (1 month).
2. Collaboration with Ivan Corwin and Konstantin Matveev, Columbia University, March 2015, New York, NY, USA (3 days).
1. Visit to Alfréd Rényi Institute of Mathematics, May 2011, Budapest, Hungary (1 week).

Other events participated

25. Bernoulli-IMS One World Symposium 2020 (online), August 2020. *Integrable probability live discussion session moderator*.

24. Meeting of the FRG "Integrable Probability", MIT, November 2018, Boston, MA, USA.

23. Workshop "Transport and localization in random media: theory and applications", Department of Applied Physics and Applied Mathematics and Department of Mathematics, Columbia University, May 2018, New York, NY, USA.

22. Eastern Spring AMS Sectional Meeting at Northeastern University, April 2018, Boston, MA, USA.

21. "Optimal and Random Point Configurations" workshop, ICERM, February–March 2018, Providence, RI, USA.

20. Current Developments in Mathematics 2017, Harvard University, November 2017, Cambridge, MA, USA.

19. 2017 Charles River Lectures on Probability Theory and Related Topics, October 2017, Harvard University, Cambridge, MA, USA.

18. SouthEastern Probability Conference "Interacting particle systems" (in honor of Professor Rick Durrett's 65th birthday), May 2017, Duke University, Durham, NC, USA.

17. 2016 Charles River Lectures on Probability Theory and Related Topics, September 2016, MIT, Cambridge, MA, USA.

16. 37th Midwest Probability Colloquium, Northwestern University, October 2015, Evanston, IL, USA.

15. Workshop "Analytic Tools in Probability and Applications", IMA, April 2015, Minneapolis, MN, USA.

14. Seminar on Stochastic Processes 2015 (*with participation in a panel discussion*), April 2015, University of Delaware, Newark, DE, USA.

13. Workshop on Moduli Spaces, Derived Geometry, and Geometric Representation Theory, November 2014, University of North Carolina at Chapel Hill, NC, USA.

12. 2014 Charles River Lectures on Probability Theory and Related Topics, October 2014, Harvard University, Cambridge, MA, USA.

11. Workshop "Stochastic Analysis: Around the KPZ Universality Class" at Mathematisches Forschungsinstitut Oberwolfach, June 2014, Oberwolfach, Germany.

10. 2013 Charles River Lectures on Probability Theory and Related Topics, October 2013, MIT, Cambridge, MA, USA.

9. Gelfand Centennial Conference: A View of 21st Century Mathematics, August 2013, MIT, Cambridge, MA, USA.

8. Summer School "KPZ equation and rough paths", June 2013, Lebesgue Center of Mathematics, Rennes, France.

7. 2012 Charles River Lectures on Probability Theory and Related Topics, October 2012, Microsoft Research, Cambridge, MA, USA.

6. St. Petersburg School in Probability and Statistical Physics, June 2012, St. Petersburg, Russia.

5. Algebraic Geometry Northeastern Series (AGNES) Workshop, October 2011, Stony Brook, NY, USA.

4. Clay Institute Summer School "Probability and Statistical Physics in Two and more Dimensions", July 2010, Buzios, Brazil.

3. Midrasha Mathematicae: The Mathematics of Oded Schramm, December 2010, Hebrew University, Jerusalem, Israel.

2. Summer School "Structures in Lie Representation Theory", August 2009, Jacobs University, Bremen, Germany.

1. PROMYS summer program at Boston University for high school students, Boston, MA, USA, 2001.

Teaching

- University of Virginia.
  MATH 3100 — Introduction to Probability, 2 sections. Online, inverted.

Spring 2020: University of Virginia.
MATH 3340 — Complex variables. Partially online.
MATH 7310 — Real Analysis and Linear Spaces (graduate). Partially online.

Fall 2019: University of Virginia.
MATH 8380 — Random matrices (graduate).

Spring 2019: University of Virginia.
MATH 7310 — Real Analysis and Linear Spaces (graduate).

Fall 2018: University of Virginia.
MATH 3100 — Introduction to Probability, 2 sections.

Spring 2017: University of Virginia.
MATH 3100 — Introduction to Probability.

Fall 2016: University of Virginia.
MATH 2310 — Calculus III, 2 sections.

Summer 2016: Participation in the **Course Design Institute** at the University of Virginia (a week-long training on designing courses focusing on student learning), June 2016, Charlottesville, VA, USA.

Spring 2016: University of Virginia.
MATH 8380 — Random matrices.

Fall 2015: University of Virginia.
MATH 3100 — Introduction to Probability.

Spring 2015: University of Virginia.
MATH 5110 — Introduction to Stochastic Processes.

Fall 2014: University of Virginia.
MATH 3100 — Introduction to Probability.

Spring 2014: Northeastern University.
MATH 7241 — Probability 1 (graduate).

Fall 2013: Northeastern University.
MATH 3081 — Probability and Statitics, 2 sections.

Spring 2013: Northeastern University.
MATH 4581 — Statistics and Stochastic Processes.

Fall 2012: Northeastern University.
MATH 1342 — Calculus II for Sci&Eng (honors section). Part of a teaching experiment at Department of Mathematics with "inverted" sections: the instructor assigns watching video-lectures accompanying the textbook for homework, and spends class-time going over problems and clarifying the material.

MATH 7382 — Topics in Probability (graduate): an expository introductory-level graduate course on solvable probabilistic models, including tools of algebraic combinatorics and representation theory.

Spring 2012: Northeastern University.
MATH 3081 — Probability and Statitics, 2 sections.

Fall 2011: Northeastern University.
MATH 1342 — Calculus II for Sci&Eng.

Spring 2011: "Math in Moscow" programme in English for international students at the Independent University of Moscow. A course in Combinatorics.

2007—2008: Moscow High School No. 17. Teacher of mathematics.

Editing and reviewing

- Editor at "Mathematical Physics, Analysis and Geometry" (https://www.springer.com/journal/11040) and "Combinatorial Theory" (http://math.sfsu.edu/beck/ct/).
- I regularly referee scholarly journal papers submitted to numerous journals, including Ann. Prob., Adv. Math., Adv. Appl. Math., Comm. Math. Phys., Intern. J. Math., Arkiv för Mat., SIGMA, J. Alg. Comb., Comm. Pure Appl. Math., Intern. Math. Res. Notices, J. Appl. Probab., J. Comb. Theory A, Symp. Th. Aspects of Comp. Sci., J. of Stat. Physics, Electron. Comm. Probab.
- I am a regular reviewer for the Mathematical Reviews database.
- I reviewed grant proposals for several funding agencies.

Other

- Notes "Lozenge tilings and random dynamics" from the Summer School "Contemporary Mathematics" (in Russian, for high school and beginning undergraduate students), available at https://lpetrov.cc/dubna2019/
- Random tilings at an art exhibition

  https://www.radcliffe.harvard.edu/event/2016-art-discovery-exhibition
- Course notes "Asymptotic representation theory", taught by G. Olshanski at the Independent University of Moscow, Fall 2009 and Spring 2010 (in Russian). Available at https://lpetrov.cc/art/

Informatic skills : LaTeX, Mathematica, Computer experimentation, Probabilistic visualization, git, Python, html/jekyll and web design, UNIX.

Personal

Date of birth: November 5, 1985
Languages: English (fluent), Russian (native)
Citizenship: Russia
Family: Married, 1 child
Phone: +1-857-210-7948
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