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I. Earned degrees

- 2016 **PhD in Pure Mathematics**
University of Alberta, Canada
Advisor: Dr. Nicole Tomczak-Jaegermann
Co-advisor: Dr. Vlad Yaskin
- 2011 **Candidate of Sciences in Pure Mathematics**
Samara State University, Russia (dissertation defended in Voronezh, Russia)
Advisor: Dr. Sergey V. Astashkin
- 2008 **Specialist in Applied Mathematics and Information Technologies**
Samara State University, Russia

II. Employment history

- 2018–present **Assistant Professor**, School of Mathematics, GeorgiaTech
- 2017/08–2017/12 **Viterbi Postdoctoral fellow**, MSRI, Berkeley
Advisor: Dr. Mark Rudelson
- 2016–2018 **Instructor**, Princeton University
- 2011–2016 **Teaching assistant**, University of Alberta, Canada
- 2008–2011 **Software developer**, CQG Inc. (www.cqg.com)
- 2007–2008 **Software developer**, Mercury Development (www.mercdev.com)

III. Publications

(*) completed at GT

PD GT postdoc

Published and Accepted Journal Articles

1. (*) A.E. Litvak, K. Tikhomirov, Singularity of sparse Bernoulli matrices, *Duke Math. Journal*, to appear. arXiv:2004.03131.
2. (*) **H. Huang**^{PD}, K. Tikhomirov, A remark on the smallest singular value of powers of Gaussian matrices, *Electron. Commun. Probab.* **25** (2020), Paper No. 10, 8 pp. MR4066303
3. (*) A. E. Litvak, K. Tikhomirov and N. Tomczak-Jaegermann, Small ball probability for the condition number of random matrices, in *Geometric aspects of functional analysis. Vol. II*, 125–137, Lecture Notes in Math., 2266, Springer, Cham [2020]. MR4175760
4. (*) G. V. Livshyts, K. Tikhomirov and R. Vershynin, The smallest singular value of inhomogeneous square random matrices, *Ann. Probab.* **49** (2021), no. 3, 1286–1309. MR4255145
5. (*) G. Paouris, K. Tikhomirov, P. Valettas, Hypercontractivity, and Lower Deviation Estimates in Normed Spaces, *Ann. Probab.*, to appear. arXiv:1906.03208
6. (*) K. Tikhomirov and P. Youssef, Outliers in spectrum of sparse Wigner matrices, *Random Structures Algorithms* **58** (2021), no. 3, 517–605. MR4234995
7. (*) K. Tikhomirov, Singularity of random Bernoulli matrices, *Ann. of Math. (2)* **191** (2020), no. 2, 593–634. MR4076632
8. A. Lytova and K. Tikhomirov, On delocalization of eigenvectors of random non-Hermitian matrices, *Probab. Theory Related Fields* **177** (2020), no. 1-2, 465–524. MR4095020
9. M. Rudelson and K. Tikhomirov, The sparse circular law under minimal assumptions, *Geom. Funct. Anal.* **29** (2019), no. 2, 561–637. MR3945840
10. K. Tikhomirov, On the Banach-Mazur distance to cross-polytope, *Adv. Math.* **345** (2019), 598–617. MR3900705
11. A. Litvak, A. Lytova, K. Tikhomirov, N. Tomczak-Jaegermann and P. Youssef, The rank of random regular digraphs of constant degree, *J. Complexity* **48** (2018), 103–110. MR3828839
12. A. Litvak, A. Lytova, K. Tikhomirov, N. Tomczak-Jaegermann and P. Youssef, Circular law for sparse random regular digraphs, *J. Eur. Math. Soc. (JEMS)* **23** (2021), no. 2, 467–501. MR4195739
13. A. Litvak, A. Lytova, K. Tikhomirov, N. Tomczak-Jaegermann and P. Youssef, Structure of eigenvectors of random regular digraphs, *Trans. Amer. Math. Soc.* **371** (2019), no. 11, 8097–8172. MR3955544
14. G. Livshyts and K. Tikhomirov, Cube is a Strict Local Maximizer for the Illumination Number, *Discrete Comput. Geom.* **63** (2020), no. 1, 209–228. MR4045746
15. K. Tikhomirov, Invertibility via distance for noncentered random matrices with continuous distributions, *Random Structures Algorithms* **57** (2020), no. 2, 526–562. MR4129729
16. A. Litvak, A. Lytova, K. Tikhomirov, N. Tomczak-Jaegermann and P. Youssef, The smallest singular value of a shifted d -regular random square matrix, *Probab. Theory Related Fields* **173** (2019), no. 3-4, 1301–1347. MR3936157

17. A. Lytova and K. Tikhomirov, The variance of the ℓ_p^n -norm of the Gaussian vector, and Dvoretzky's theorem, *Algebra i Analiz* **30** (2018), no. 4, 107–139. MR3851373
18. K. Tikhomirov, Superconcentration, and randomized Dvoretzky's theorem for spaces with 1-unconditional bases, *J. Funct. Anal.* 274 (2018), no. 1, 121–151.
arXiv:1702.00859
19. Tikhomirov, K. and Youssef, P., On the norm of a random jointly exchangeable matrix, *J Theor Probab* (2018). <https://doi.org/10.1007/s10959-018-0844-y>
20. K. Tikhomirov and P. Youssef, The spectral gap of dense random regular graphs, *Ann. Probab.* **47** (2019), no. 1, 362–419. MR3909972
21. A. E. Litvak and K. Tikhomirov, Order statistics of vectors with dependent coordinates, and the Karhunen-Loève basis, *Ann. Appl. Probab.* **28** (2018), no. 4, 2083–2104. MR3843824
22. Ch. Bordenave, P. Caputo, D. Chafaï and K. Tikhomirov, On the spectral radius of a random matrix: an upper bound without fourth moment, *Ann. Probab.* 46 (2018), no. 4, 2268–2286.
arXiv:1607.05484
23. K. Tikhomirov, Illumination of convex bodies with many symmetries, *Mathematika*, **63** (2017), no. 2, 372–382. arXiv:1606.08976
24. G. Livshyts and K. Tikhomirov, Randomized coverings of a convex body with its homothetic copies, and illumination. *Proc. Amer. Math. Soc.*, to appear.
arXiv:1606.08876
25. K. Tikhomirov, Sample covariance matrices of heavy-tailed distributions, *Int. Math. Res. Not. IMRN* **2018**, no. 20, 6254–6289. MR3872323
26. A. Litvak, A. Lytova, K. Tikhomirov, N. Tomczak-Jaegermann and P. Youssef, Adjacency matrices of random digraphs: singularity and anti-concentration, *J. Math. Anal. Appl.* **445** (2017), no. 2, 1447–1491. MR3545253. arXiv:1511.00113
27. A. E. Litvak, A. Lytova, K. Tikhomirov, N. Tomczak-Jaegermann, P. Youssef, Anti-concentration property for random digraphs and invertibility of their adjacency matrices, *C. R. Math. Acad. Sci. Paris* **354** (2016), no. 2, 121–124. MR3456885
28. D. Chafaï and K. Tikhomirov, On the convergence of the extremal eigenvalues of empirical covariance matrices with dependence. *Probab. Theory Relat. Fields* 170 (2018), no. 3-4, 847–889. arXiv:1509.02231
29. E. Rebrova and K. Tikhomirov, Coverings of random ellipsoids, and invertibility of matrices with i.i.d. heavy-tailed entries, *Israel J. Math.* **227** (2018), no. 2, 507–544. MR3846333
30. K. Tikhomirov and P. Youssef, When does a discrete-time random walk in \mathbb{R}^n absorb the origin into its convex hull?, *Ann. Probab.* **45** (2017), no. 2, 965–1002. MR3630291. arXiv:1410.0458
31. S. V. Astashkin, G. P. Curbera and K. E. Tikhomirov, On the existence of RUC systems in rearrangement invariant spaces, *Math. Nachr.* **289** (2016), no. 2-3, 175–186. MR3458300
32. K. Tikhomirov, The limit of the smallest singular value of random matrices with i.i.d. entries, *Adv. Math.* **284** (2015), 1–20. MR3391069

33. K. E. Tikhomirov, The smallest singular value of random rectangular matrices with no moment assumptions on entries, *Israel J. Math.* **212** (2016), no. 1, 289–314. MR3504328
34. K. E. Tikhomirov, On the distance of polytopes with few vertices to the Euclidean ball, *Discrete Comput. Geom.* **53** (2015), no. 1, 173–181. MR3293493
35. K. E. Tikhomirov, The Randomized Dvoretzky’s theorem in ℓ_∞^n and the χ -distribution, *Geometric Aspects of Functional Analysis, Lecture Notes in Mathematics*, **2116** (2014), 455–463.
36. S. V. Astashkin, L. Maligranda and K. E. Tikhomirov, New examples of K -monotone weighted Banach couples, *Studia Math.* **218** (2013), no. 1, 55–88. MR3125124
37. K. E. Tikhomirov, Almost Euclidean sections in symmetric spaces and concentration of order statistics, *J. Funct. Anal.* **265** (2013), no. 9, 2074–2088. MR3084497
38. S. V. Astashkin and K. E. Tikhomirov, A probabilistic version of Rosenthal’s inequality, *Proc. Amer. Math. Soc.* **141** (2013), no. 10, 3539–3547. MR3080175
39. S. V. Astashkin and K. E. Tikhomirov, On some probabilistic analogues of the Rosenthal inequality. (Russian) *Mat. Zametki* **90** (2011), no. 5, 665–671; translation in *Math. Notes* **90** (2011), no. 5-6, 644–650. MR2962557
40. K. E. Tikhomirov, K -monotone weighted couples of Banach lattices. (Russian) *Sibirsk. Mat. Zh.* **52** (2011), no. 1, 187–200; translation in *Sib. Math. J.* **52** (2011), no. 1, 147–158. MR2810261
41. S. V. Astashkin and K. E. Tikhomirov, On stably \mathcal{K} -monotone Banach couples. (Russian) *Funktsional. Anal. i Prilozhen.* **44** (2010), no. 3, 65–69; translation in *Funct. Anal. Appl.* **44** (2010), no. 3, 212–215. MR2760515
42. S. V. Astashkin and K. E. Tikhomirov, On stability of \mathcal{K} -monotonicity of Banach couples, *Rev. Mat. Complut.* **23** (2010), no. 1, 113–137. MR2578575

Conference Presentation with Proceedings (refereed)

43. (*) C.Mao, M.Rudelson, K.Tikhomirov, Random Graph Matching with Improved Noise Robustness, COLT 2021, to appear. arXiv:2101.11783
44. K. E. Tikhomirov, A strengthening of a theorem of Marcinkiewicz, in *Marcinkiewicz centenary volume*, 369–383, Banach Center Publ., 95, Polish Acad. Sci. Inst. Math., Warsaw, 2011. MR2918349

Submitted Journal Articles

45. (*) **H. Huang**^{PD}, K. Tikhomirov, Shotgun assembly of unlabeled Erdos-Renyi graphs. Submitted.
46. (*) **H. Huang**^{PD}, K. Tikhomirov, On Dimension-dependent concentration for convex Lipschitz functions in product spaces. Submitted. arXiv:2106.06121
47. (*) K.Tikhomirov, P.Youssef, Sharp Poincaré and log-Sobolev inequalities for the switch chain on regular bipartite graphs. Submitted.

48. (*) **J. Hao**^{PD}, **H. Huang**^{PD}, G. Livshyts, K. Tikhomirov, Distribution of the minimal distance of random linear codes. Submitted.