CURRICULUM VITAE

1. Biographical Statement

First Name: **Otabek**
Family Name: **Khakimov**
Middle name: **Norbuta ugli**
Personal: Year of Birth: 1986, 14 December, Sirdarya region, Uzbekistan.
Marital status: Married.
Nationality: Uzbekistan
AFFILIATION Institution:

1. Professor, Faculty of Exact Sciences, University of Exact and Social Sciences, 341, Karasaray str., Tashkent, Uzbekistan.

2. Associate Professor, V.I.Romanovsky Institute of Mathematics, 4, University str. 100174, Tashkent, Uzbekistan

E-Mail: `khakimovo86@gmail.com` `hakimovo@aifu.uz`

2.Education:

(a) bachelor degree course (subject, university, dates)	Mathematics, National University of Uzbekistan 01/09/2005- 20/06/2009
(b) master degree course (subject, university, dates)	Mathematics, National University of Uzbekistan 01/09/2009- 20/06/2011
(c) PhD in Physical and Mathematical Sciences	The Supreme Attestation Commission of the Republic of Uzbekistan based on the decision of the scientific council at the National University of Uzbekistan 01 No: 001466, date: 30/04/2019, records 264/1
(d) DSc in Physical and Mathematical Sciences	The Supreme Attestation Commission of the Republic of Uzbekistan based on the decision of the scientific council at the National University of Uzbekistan 04 No: 007032, date: 29/07/2022, records 14

3. Languages:
English, Russian, Uzbek (Native)
4. In Scopus:
SC 55683434000, ORCID 0000-0002-8918-9094, h-index=12
5. Professional occupation:
2023 - up to professor at the University of Exact and Social Sciences, Tashkent, Uzbekistan

2012 - up to present time scientific fellow of the V.I.Romanovskii Institute of Mathematics, Tashkent, Uzbekistan.

6. Grants, Awards, Fellowships

Winner of the "Eureka-2023" Award for scientists of the Republic of Uzbekistan. Project leader of "Gradient Probability Measures in Lattice Systems" (2021-2025). TWAS Young Affiliate 2022; Twice prize winner among young scientists of Academy Sciences of Uzbekistan: 2014 and 2016; (2008-2009) Stipend of the "Qori Niyozi" center for students. (2018-2019) Stipend of the "Qori Niyozi" center for young researchers.

7. Fields of research: Probability theory and stochastic processes; Dynamical systems and ergodic theory; Functional analysis. Mathematical physics.

My researches carry on the following fields:

I. Gibbs measures of lattice models of statistical mechanics.

II. p-adic Gibbs measures in the field of p-adic numbers.

III. The dynamical systems generated by nonlinear operators.

IV. Evolution algebras and its derivations and automorphisms.

The main results of my work can be found in publications (see the list of publications)

8. Fields of application:

1. Theory of Markov random fields.

2. p-adic statistical physics.

3. Genetics and population dynamics.

4. Evolution algebras.

9. Visits:

Host institution, country:	Reason for visit	From :	To :
1. IIUM, Kuantan, **Malaysia**	Visiting Mathematician	20.11.2014	17.12.2014
2. IIUM, Kuantan, **Malaysia**	Visiting Mathematician	06.04.2015	05.05.2015
3. UAEU, Al Ain Abu Dhabi, **UAE**	Research assistent	11.10.2017	03.06.2018

Supervisor of the following master students:

1. `Abduqodirov Asliddin`, Gulistan State university, Gulistan, Uzbekistan, 2020-2022, Thesis title: *On applications of p-adic monomial equation.* Completed in 2022 (**main supervisor**);

2. `Saidov Abdullatif`, Gulistan State university, Gulistan, Uzbekistan, 2020-2022, Thesis title: *On dynamics of infinite dimensional quadratic stochastic operators.* Completed in 2022 (**main supervisor**);

3. `Goziyeva Sojida`, Namangan State university, Namangan, Uzbekistan, 2021-2023, Thesis title: *On linear dynamics over non-Archimedean sequence spaces.* Completed in 2023 (**main supervisor**);

4. `Khusanov Shukhrat`, Gulistan State university, Gulistan, Uzbekistan, 2021-2023, Thesis title: *Riezs type stochastic operators and theirs dynamics.* Completed in 2023 (**main supervisor**);

5. `Quttibayev Akbar`, University of Exact and Social Sciences, 2023-2025, on going (**main supervisor**);

6. `Sattorov Dilshod`, University of Exact and Social Sciences, 2023-2025, on going (**main supervisor**);

7. `Umurova Shalola`, University of Exact and Social Sciences, 2023-2025, on going (**main supervisor**);

Supervisor of the following PhD students:

1. `Eshmetova Sabokhat`, Chirchik State Pedagogical University, Chirchik, Uzbekistan. (**main supervisor**) on going;

2. `Yusupbaeva Khilola`, V.I.Romanovsky Institute of Mathematics, Tashkent, Uzbekistan. (**main supervisor**) on going.

O.N. KHAKIMOV's LIST OF PUBLICATIONS

2024

46. Qawasmeh, A., Mukhamedov, F., Khakimov, O., On Gibbs measures of the Ising model on (k, m)-ary trees. // Reviews in Mathematical Physics, 2024, 2450042

45. Mukhamedov, F., Khakimov, O., Qaralleh, I. On $exp(Der(E))$ of nilpotent evolution algebras of maximal nilindex. // Linear and Multilinear Algebra, 2024, 72(14), pp. 23792390

44. Yusupbaeva Kh., Khakimov O., On dynamics of the Ising mapping over Q_2. // *Bulletin of the Institute of Mathematics*, 2024, 7(4), pp. 76-86;

43. Eshmetova S.D., Khakimov O.N., On dynamics of infinite dimensional Volterra QSOs. // *Uzbek Mathematical Journal.* 2024, Volume 68, Issue 2, pp.71-77

2023

42. Mukhamedov, F., Khakimov, O., p-Adic phase transitions for countable state Potts model. // *Mathematical Methods in the Applied Sciences.* 2023, 46(13), pp. 14104–14119;

41. Khakimov, O., Phase transitions for countable state 1D SOS model with external field. // *Journal of Statistical Mechanics: Theory and Experiment.* 2023, (5), 053201;

40. Mukhamedov, F., Khakimov, O., Absolute continuity of non-homogeneous Gibbs measures of the Ising model on the Cayley tree. // *Nonlinearity.* 2023, 36(10).

39. Khakimov O., On dynamics of positive Riesz-type stochastic operators. // *Bulletin of the Institute of Mathematics*, 2023, 6(5), pp. 11-18;

2022

38. Khakimov, O., Mukhamedov, F., Chaotic behavior of the p-adic Potts-Bethe mapping II, *Ergodic Theory and Dynamical Systems.* 2022, 42(11), pp. 34333457;

37. Khakimov O.N., On dynamics of Cezaro operator on S^{m-1}. // *Springer Proceedings in Mathematics & Statistics.* 2022.

36. Mukhamedov F., Khakimov O., Souissi A., A Few Remarks on Supercyclicity of Non-Archimedean Linear Operators on $c_0(N)$. // *p-Adic Numbers, Ultrametric Analysis, and Applications*, 2022, 14(1), 64-76;

2021

35. Mukhamedov F., Khakimov O., Chaos in p-adic Statistical Lattice Models: Potts Model. // Chapter of the book "Advances in Non-Archimedean Analysis and Applications" The p-adic Methodology in STEAM-H, Springer, 2021.

34. Khakimov O., Abdullaeva G., On dynamics of 2-Adic Ising-Potts mapping and its applications. // *Bulletin of the Institute of Mathematics*, 2021, 4(5), pp. 9-18;

33. Mukhamedov F., Khakimov O., Souissi A., Supercyclic and hypercyclic generalized weighted backward shifts over a non-Archimedean $c_0(N)$ space. // *Mathematics*, 2021, 9(22), 2986;

32. Mukhamedov F., Khakimov O., Chaotic behavior of the p-adic Potts-Bethe mapping II. // *Ergodic Theory and Dynamical Systems*, 2021;

31. Mukhamedov F., Khakimov O., Embong A., Projective surjectivity of quadratic stochastic operators on L_1 and its application. // *Chaos, Solitons and Fractal*, 2021, 148, 111034;

30. Mukhamedov F., Khakimov O., Translation-invariant generalized p-adic Gibbs measures for the Ising model on Cayley trees. // *Mathematical Methods in the Applied Sciences*, 2021, 44(16) 12302-12316;

2020

29. Mukhamedov F., Khakimov O., Embong A., On omega limiting sets of infinite dimensional Volterra operators. // *Nonlinearity*, 2020, 33, 5875-5904;

28. Mukhamedov F., Khakimov O., Embong A., Ergodicities of Infinite Dimensional Nonlinear Stochastic Operators. // *Qualitative Theory of Dynamical Systems*, 2020, 19(79);

27. Mukhamedov F., Khakimov O., Qarellah I., Classification of nilpotent evolution algebras and extensions of their derivations. // *Communications in Algebra*, 2020, 48(10), 4155-4169;

26. Mukhamedov F., Khakimov O., Embong A., Solvability of nonlinear integral equations and surjectivity of non-linear markov operators. // *Mathematical Methods in the Applied Sciences*, 2020, 43(15), 9102-9118;

25. Mukhamedov F., Khakimov O., p-Adic monomial equations and their perturbations. // *Izvestiya: Mathematics*, 2020, 84;

2019

24. Mukhamedov F., Khakimov O., Qarellah I., Omirov B., Derivations and automorphisms of Evolution Algebras with maximal nilindex. // *Journal of Algebra and its Applications*, 2019, V.18, No.12, 1950233;

23. Rakhmatullayev M., Khakimov O., Tuxtaboyev A., On p-adic generalized Gibbs measure for the Ising model on a Cayley tree. // *Theoretical and Mathematical Physics*, 2019,V.201(1) p.1521-1530;

2018

22. Mukhamedov F., Khakimov O., Embong A., On surjective second order non-linear Markov operators and associated nonlinear integral equations. // *Positivity*, 2018, V.22, No.5, p.1445-1459;

21. Mukhamedov F., Khakimov O., Dynamics of linear operators on non-Archimedean vector spaces. // *Bulletin of the Belgian Mathematical Society*, 2018, V.25, p.85-105;

20. Mukhamedov F., Khakimov O., Chaotic behavior of the Potts Bethe mapping. // *Discrete and Continuous Dynamical Systems - Series S*, 2018, V.38, No.1, p.231-245;

2017

19. Khakimov O.N., p-Adic Solid-on-Solid model on a Cayley tree. // *Theoretical and Mathematical Physics*, 2017, V.193, No.3, p.1881–1894;

18. Mukhamedov F., Khakimov O., On Julia Set and Chaos in p-adic Ising Model on the Cayley Tree. // *Mathematical Physics Analysis and Geometry*, 2017, V.20(23);

17. Mukhamedov F., Akin H., Khakimov O., Gibbs measures and free energies of IsingVannimenus model on the Cayley tree. // *Journal of Statistical Mechanics: Theory and Experiment.*, 2017, doi:10.1088/1742-5468/aa6c88;

2016

16. Mukhamedov F.M., Saburov M., Khakimov O.N., Translation-invariant p-adic quasi-Gibbs measures for the Ising-Vannimenus model on a Cayley tree. // *Theoretical and Mathematical Physics*, 2016, V.187, No.1, p. 583-602;

15. Khakimov O.N., p-Adic Hard Sphere model with three competing interactions on a Cayley tree. // *Siberian Mathematical Journal*, 2016, V.4, No. 57, p.928-940;

14. Mukhamedov F.M., Khakimov O.N., Phase transition and chaos: p-adic Potts model on a Cayley tree. // *Chaos, Solitons and Fractals*, 2016, V.87, p.190-196;

13. Mukhamedov F.M., Khakimov O.N., On metric properties of unconventional limit sets of contractive non-Archimedean dynamical systems. // *Dynamical Systems*, 2016, V.31(4), 506-524;

12. Mukhamedov F.M., Khakimov O.N., On limit sets of contractive functions on p-adic field. // *Innovations Through Mathematical and Statistical Research AIP Conference Proceedings*, 2016, doi: 10.1063/1.4952542;

11. Mukhamedov F.M., Khakimov O.N., On periodic Gibbs measures of p-adic Potts model on a Cayley tree. // *p-Adic Numbers, Ultrametric Analysis and Applications*, 2016, V.8, No.3, pp.225-235;

10. Mukhamedov F.M., Khakimov O.N., On a generalized self-similarity in the p-adic field. // *Fractals*, 2016, V.24, No.4, 1650041;

2015

9. Khakimov O.N., On periodic generalized p-adic Gibbs measures for the Vannimenus model on a Cayley tree. // *Uzbek Mathematical Journal*, 2015, No.1, p.111-120;

8. Rozikov U.A., Khakimov O.N., Description of all translation-invariant p-adic Gibbs measures for the Potts model on a Cayley tree. // *Markov Processes and Related fields*, 2015, V.21, No.1, p.177-204;

7. Mukhamedov F.M., Saburov M., Khakimov O.N., On p-adic Ising-Vannimenus model on a Cayley tree. // *Journal of Statistical Mechanics: Theory and Experiment.*, 2015, doi:10.1088/1742-5468/2015/05/P05032; (Cite 10)

2014

6. Khakimov O.N., p-Adic Gibbs Quasi Measures for the Vannimenus model on a Cayley tree. // *Theoretical and Mathematical Physics*, 2014, V.179, No.1, p. 395-404;

5. Khakimov O.N., On a generalized p-adic Gibbs measure for Ising model on trees. // *p-Adic Numbers, Ultrametric Analysis and Applications*, 2014, V.6, No.2, p. 105-115;

4. Khakimov O.N., p-Adic Gibbs measures for the Hard Sphere model with four competing interactions on a Cayley tree. // *Bulletin of Academy of Sciences of Uzbekistan*, 2014, No.1, p. 9-11;

2013

3. Rozikov U.A., Khakimov O.N., p-Adic Gibbs measures and Markov random fields on countable graphs. // *Theoretical and Mathematical Physics*, 2013, V.175, No.1, p.518-525;

2. Khakimov O.N., p-Adic Gibbs measures for the model of Hard Spheres with three states on the Cayley tree. // *Theoretical and Mathematical Physics*, 2013, V.177, No.1, p. 1339-1351;

1. Khakimov O.N., On p-adic Gibbs measures for Ising model with four competing interactions. // *p-Adic Numbers, Ultrametric Analysis and Applications*, 2013, V. 5, No. 3, p.194-203;