

Ali Khezeli

PRESENT ADDRESS

Institute for Research in Fundamental Sciences (IPM),
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Current Position

- *Assistant Professor*, Institute for Research in Fundamental Sciences (IPM), since January 2024 (Dey 1402).

Fields of Interest

Probability Theory, Stochastic Geometry, Random Measures and Point Processes, Random Graphs and Networks.

Work and Research Experience

- *Assistant Professor*, Institute for Research in Fundamental Sciences (IPM), since January 2024 (Dey 1402).
- *Researcher (Starting Research Position)*, Inria Paris, October 2020 to December 2023 (Mehr 1399 to Dey 1402).
Concentration: Unimodular Random Graphs, Stationary Point Processes, Geometric Networks.
- *Assistant Professor*, Department of Mathematics, Tarbiat Modares University, February 2018 (Esfand 1396) to September 2022 (Shahrivar 1401).
Concentration: Stationary Point Processes and Unimodular Random Graphs, Financial Mathematics.
- *Resident Researcher*, Institute for Research in Fundamental Sciences (IPM), 2018 to 2020.
- *Post Doctoral Researcher*, Institute for Research in Fundamental Sciences (IPM), September 2016 (Mehr 1395) to February 2018 (Bahman 1396).
Concentration: Stationary Point Processes and Unimodular Random Graphs.
- *Research Scholar*, Department of Mathematics, The University of Texas at Austin, September 2015 to September 2016,

Concentration: Stochastic Geometry, Point Processes, Random Graphs.
Advisor: Francois Baccelli.

Education

- Ph.D., Pure Mathematics, Sharif University of Technology, 2010 to 2016
Concentration: Stochastic Geometry, Point Processes, Random Measures.
Advisor: Kasra Alishahi, Co-Advisor: Mir-Omid Haji-Mirsadeghi.
Thesis Title: Stable Transports Between Stationary Random Measures.
G.P.A. 19.60 (out of 20 scale) .
- M.Sc., Pure Mathematics, Sharif University of Technology, 2008 to 2010.
Concentration: Probability, Markov chains, Convex Geomtry.
Advisor: Kasra Alishahi.
Thesis Title: Generating Random Points in a Convex Body in High Dimensions,
G.P.A. 18.95 (out of 20 scale) .
- B.Sc., Pure Mathematics, Sharif University of Technology, 2005 to 2008,
G.P.A. 18.17 (out of 20 scale)
- High School, Shahid Beheshti Educational Complex (NODET), Kermanshah, Iran, 2001 to 2005.

Publications

- Khezeli, A. (2025). Products of Infinite Countable Groups Have Fixed Price One. *arXiv preprint*, [arXiv:2509.08325](https://arxiv.org/abs/2509.08325).
- D'Achille, M., Khezeli, A. (2026). Convergence towards Ideal Poisson–Voronoi tessellations with a focus on Diestel–Leader graphs.
arXiv preprint, [arXiv:2606.30517](https://arxiv.org/abs/2606.30517).
- Khezeli, A. (2026). Unimodular Random Graphs and Measured Metric Spaces.
To appear in Mathematical Culture and Thought (in Persian).
- Baccelli, F., Khezeli, A. (2026). Indistinguishability in One-or-Two-Ended Forests on Unimodular Random Graphs.
arXiv preprint, [arXiv:2603.19717](https://arxiv.org/abs/2603.19717).
- D'Achille, M., Grebik, J., Khezeli, A., Recke, K., Wilkens, A. (2025). Vanishing Uniqueness Thresholds in Voronoi Percolation on Products.
arXiv preprint, [arXiv:2511.23317](https://arxiv.org/abs/2511.23317).

- Khezeli, A. Unimodular Random Measured Metric Spaces and Palm Theory on Them. *arXiv preprint*, [arXiv:2304.02863](https://arxiv.org/abs/2304.02863).
- Khezeli, A., Mellick, S. (2025) On the Existence of Balancing Allocations and Factor Point Processes, *ALEA*, 22, 1327–1334.
<https://alea.impa.br/articles/v22/22-51.pdf>.
- Khezeli, A. (2024) An Improved Lower Bound on the Largest Common Subtree of Random Leaf-Labeled Binary Trees, *SIAM Journal on Discrete Mathematics*, 38(3), 2530-2541.
<https://epubs.siam.org/eprint/DYCAEFSKKDM2PVPK87JG/full>.
- Khezeli, A. (2023) A Unified Framework for Generalizing the Gromov-Hausdorff metric, *Probab. Surveys*, 20, 837 - 896.
<https://doi.org/10.1214/20-PS340>
- Khezeli, A. (2022) Counter Examples to Invariant Circle Packing, *Annales IHP Probability and Statistics*, 58(4), 1981-1997.
<https://projecteuclid.org/journals/Annales-de-linstitut-henri-poincare-probabilites-et-statistiques/volume-58/issue-4/Counter-examples-to-invariant-circle-packing/10.1214/21-AIHP1234.short>
- Baccelli, F., Haji-Mirsadeghi, M. O., and Khezeli, A. (2021). Unimodular Hausdorff and Minkowski Dimensions. *Electronic Journal of Probability*, 26, 1-64.
<https://projecteuclid.org/journals/electronic-journal-of-probability/volume-26/issue-none/Unimodular-Hausdorff-and-Minkowski-dimensions/10.1214/21-EJP692.full>.
- Khezeli, A. (2020) Metrization of the Gromov-Hausdorff (-Prokhorov) Topology for Boundedly-Compact Metric Spaces, *Stochastic Processes and their Applications*, 130(6), 3842-3864.
<https://www.sciencedirect.com/science/article/abs/pii/S0304414919303102>.
- Baccelli, F., Haji-Mirsadeghi, M. O., and Khezeli, A. On the Dimension of Unimodular Discrete Spaces, *preprint* ([link](#)).
- Khezeli, A. Shift-Coupling of Random Rooted Graphs and Networks, *Unimodularity in randomly generated graphs*, 175-211, Contemp. Math., 719, Amer. Math. Soc., Providence, RI, 2018.
<https://www.ams.org/books/conm/719/>
- Baccelli, F., Haji-Mirsadeghi, M. O., and Khezeli, A. Eternal Family Trees and Dynamics on Unimodular Random Graphs, *Unimodularity in randomly generated graphs*, 85-127, Contemp. Math., 719, Amer. Math. Soc., Providence, RI, 2018.
<https://www.ams.org/books/conm/719/>
- Haji-Mirsadeghi, M. O., and Khezeli, A. (2016). Stable transports between stationary random measures. *Electronic Journal of Probability*, 21, 1-25.

<https://projecteuclid.org/journals/electronic-journal-of-probability/volume-21/issue-none/Stable-transport-between-stationary-random-measures/10.1214/16-EJP4237.full>

Honors and Awards

- Gold medal, National Mathematical Olympiad, Iran, summer 2004.
- Silver medal, International Mathematical Olympiad (IMO), Mérida, Mexico, 2005.
- First prize, International Mathematical Competition for University Students (IMC), Odessa, Ukraine, 2006.
- Second Rank and Gold Medal in the 9th International Scientific Olympiad (Mathematics), held in Tehran, Iran, 2008.
- First prize, International Mathematical Competition for University Students (IMC), Blagoevgrad, Bulgaria, 2008.
- Ranked 2nd in the entrance exam of Iranian universities for Master of Science, 2008.
- Admitted in Ph.D. at Sharif University of Technology without entrance exam as *Talented Student*, 2010.
- A winner of Outstanding Poster Awards in Stochastic Networks Conference 2016
Title: Stable Transports between Stationary Random Measures.
(<http://stochasticnetworks2016.ucsd.edu/OutstandingPosterAwards.pdf>).
- A winner of *Ali Mohammadi Prize* awarded to the best Ph. D. thesis completed in 2016-2018 (1395-1397) in Iran.
- A winner of *Shahid Shahriari Prize* in 2023 (1402).

Talks and Posters

- Talk in the conference *Perspectives In Ergodic Theory Randomness and Geometry*, Jagiellonian University, Krakow, Poland, January 2026.
Title: *Products of infinite countable groups have fixed price one.*
<https://pierogy.matinf.uj.edu.pl/>
- Talk in the *8th Conference of Frontiers in Mathematical Sciences*, IPM, Tehran (online), April 2021.
Title: *The Gromov-Hausdorff metric and its generalizations.*
<http://frontiers.ir/conference8/>

- Talk in the *22'th Workshop on Stochastic Processes*, Alzahra University, Tehran, February 2021.
Title: *Invariant Circle Packing*.
- Talk in the *21'th Workshop on Stochastic Processes*, Alzahra University, Tehran, November 2019.
Title: *Large Scale Properties of Infinite Graphs*.
- Talk in *Point Processes and Unimodular Random Graphs*, INRIA, Paris, March 2019.
Title: *On the notion of dimension of unimodular discrete spaces*.
<http://project.inria.fr/ercnemo/presentation/>
- Talk in *Frontiers in Mathematical Sciences, 6th conference*, Sharif University of Technology, July 2018.
Title: *On the dimension of unimodular discrete spaces*.
<http://frontiers.ir/>
- Talk in the *The 40th Conference on Stochastic Processes and their Applications (SPA)*, Gothenburg, Sweden, June 2018.
Title: *Shift-Coupling of Random Rooted Graphs and Networks*.
<http://spa2018.org>
- Talk in the *19'th Workshop on Stochastic Processes*, Alzahra University, Tehran, November 2017.
Title: *Graph Limits and Unimodular Random Graphs*.
- Talk in *New Challenges in Applied Mathematics*, Sharif University of Technology, joint with Ecole polytechnique and Institute for Research in Fundamental Sciences (IPM), July 16-19, 2017.
Title: *Eternal Family Trees and Dynamics on Unimodular Random Graphs*.
<http://math.sharif.ir/nciam/>
- Poster in the *19'th Workshop on Stochastic Geometry, Stereology and Image Analysis (SGSIA)*, CIRM, Marseille, May 15-19, 2017.
Title: *Stable Transports between Stationary Random Measures*.
<http://conferences.cirm-math.fr/1513.html>
- Talk in the *17'th Workshop on Stochastic Processes*, Isfahan University of Technology, Isfahan, November 2016.
Title: *Vertex-Shifts on Unimodular Random Graphs and Networks*.
- Poster in *Stochastic Networks Conference*, UC San Diego, June 20-24, 2016
Title: *Stable Transports between Stationary Random Measures*.
 - A winner of Outstanding Poster Awards.
<http://stochasticnetworks2016.ucsd.edu/OutstandingPosterAwards.pdf>

- Poster in *Simons conference on random graph processes*, The University of Texas at Austin, May 2016.
Title: *Foliations of Dynamical Systems on Unimodular Random Networks*.
<http://www.ma.utexas.edu/conferences/simons2016/posters.php>
- Poster in *Simons conference on random graph processes*, The University of Texas at Austin, May 2016.
Title: *Stable Transports between Stationary Random Measures*.
<http://www.ma.utexas.edu/conferences/simons2016/posters.php>
- Talk in the *14'th Workshop on Stochastic Processes*, Institute for Advanced Studies in Basic Sciences, Zanjan, Iran , November 2014.
Title: *Stable Transport Between Two Random Measures*.

Workshops and Conferences

- Perspectives In Ergodic Theory Randomness and Geometry, Jagiellonian University, Krakow, Poland, January 2026.
<https://pierogy.matinf.uj.edu.pl/>
- Point Processes and Unimodular Random Graphs, INRIA, Paris, March 2019.
<http://project.inria.fr/ercnemo/presentation/>
- Frontiers in Mathematical Sciences, 6th conference, Sharif University of Technology, July 2018.
<http://frontiers.ir/>
- The 40th Conference on Stochastic Processes and their Applications (SPA), Gothenburg, Sweden, June 2018.
<http://spa2018.org>
- Workshop on Stochastic Processes,
 - 19'th Workshop, *Alzahra University*, Tehran, November 2017.
 - 17'th Workshop, *Isfahan University of Technology*, Isfahan, November 2016.
 - 15'th Workshop, *Golestan University*, Gorgan, Iran, April 2015.
 - 14'th Workshop, *Institute for Advanced Studies in Basic Sciences*, Zanjan, Iran , November 2014.
 - 13'th Workshop, *Isfahan University*, Isfahan, Iran, April 2014.
- Graph Limits, Groups and Stochastic Processes, *Renyi Institute*, Budapest, August 2017.
(<https://www.renyi.hu/conferences/grgrst17/>)

- New Challenges in Applied Mathematics, *Sharif University of Technology, joint with Ecole polytechnique and Institute for Research in Fundamental Sciences (IPM)*, July 16-19, 2017.
<http://math.sharif.ir/nciam/>
- Stochastic Networks Conference, *UC San Diego*, June 20-24, 2016
(<http://stochasticnetworks2016.ucsd.edu/>).
- Markov Chain Mixing Times, *American Institute of Mathematics*, San Jose, California, June 6-10, 2016
(<http://aimath.org/workshops/upcoming/markovmixing/>).
- Simons Conference on Random Graph Processes, *The University of Texas at Austin*, May 2016
(<http://www.ma.utexas.edu/conferences/simons2016/>).
- Random Spatial Processes and Dynamics, *Texas A&M University*, April 11-15, 2016
(<https://sites.google.com/site/randomspatialp/>).
- Saint-Flour Probability Summer School, Saint-Flour, France, July 2013.

Teaching

- *Probability Theory (Graduate Course)*, Spring 2020, IPM, Tehran, Iran.
- *Numerical Methods in Financial Mathematics*, Spring 2020, Tarbiat Modares University, Tehran, Iran.
- *Financial Mathematics I*, Fall 2019, Tarbiat Modares University, Tehran, Iran.
- *Numerical Methods in Financial Mathematics*, Spring 2019, Tarbiat Modares University, Tehran, Iran.
- *Stochastic Calculus*, Fall 2018, Tarbiat Modares University, Tehran, Iran.
- *Real Analysis*, Spring 2018, Tarbiat Modares University, Tehran, Iran.
- *Stochastic Differential Equations*, Fall 2017, Tarbiat Modares University, Tehran, Iran.
- *Stochastic Processes*, Spring 2017, Sharif University of Technology, Tehran, Iran.
- *Engineering Probability and Statistics*, Fall 2016, Amirkabir University of Technology, Tehran, Iran.
- Teacher Assistant of the following courses at Sharif University of Technology.
 - Calculus I&II

- Analysis II
- Dynamical Systems
- Applied Stochastic Processes (Stochastic Simulation)
- Instructor of Mathematics Olympiad courses at YSC ¹.
 - Advanced Topics in Geometry (non-Euclidean geometries, symmetry groups, Euclidean surfaces and introduction to differential geometry), for gold medalists in National Iranian Olympiad, Fall 2008, Fall 2009 and Fall 2012.
 - Problem Solving sessions for Iranian Mathematics Olympiad Team, Spring 2012
 - Combinatorics for winners of the second round of National Mathematics Olympiad, summer 2008.
 - Geometry for winners of the second round of National Mathematics Olympiad, summer 2007.

Other Activities

- Chain of the *IPM Combinatorics and Computing Conference 2025 (IPM-CCC2025)*, IPM, May 2025
- Member of the organizing committee of *New Challenges in Applied Mathematics*, Sharif University of Technology (joint with Ecole polytechnique and IPM), July 2017.
<https://math.ipm.ac.ir/IPMCCC2025/>.
- Member of the organizing committee of *Simons Conference on Random Graph Processes*, The University of Texas at Austin, May 2016.
<http://www.ma.utexas.edu/conferences/simons2016>
- Scientific Observer (B) of Iranian Team in *International Mathematical Olympiad (IMO)*, Hong Kong, 2016.
- Scientific Observer (A) of Iranian Team in *International Mathematical Olympiad (IMO)*, Kazakhstan, 2010.
- Member of the *National Committee of Mathematics Olympiad*, Iran, July 2009 to present.
- Member of the *Coordination Committee in Iranian Mathematics Competition*, IMS, Iran,
 - 41'st Competition, Shahrekord University, Shahrekord, Iran, September 2017.

¹Young Scholars Club, responsible for Olympiads in Iran

- 40'th Competition, Iran University of Science & Technology, Tehran, Iran, September 2016.
- 39'th Competition, Yazd University, Yazd, Iran, May 2015.
- 37'th Competition, Semnan University, Semnan, Iran, May 2013.
- 36'th Competition, Institute for Advanced Studies in Basic Sciences, Zanjan, Iran , May 2012.
- 35'th Competition, Shahid Beheshti University, Tehran, Iran, May 2011.
- 34'th Competition, Kashan University, Kashan, Iran, April 2009.

Skills

- Language Skills: Persian (Native), English, French
- Programing Languages: Java, C# (fair), Matlab, R (fair), L^AT_EX.