

Curriculum Vitae of Mihyun KANG

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Institute of Discrete Mathematics
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Research Fields

Combinatorics, Discrete Probability, Algorithms

Academic Positions and Qualification

- since Jan 2012 Full Professor, Graz University of Technology (TU Graz), Austria
Apr–Sep 2011 Acting Professor, University of Munich (LMU), Germany
2008–2011 Heisenberg Fellow of German Research Foundation (DFG)
– Free University Berlin, Germany
– New York University, USA
– University of Oxford, UK
2001–2008 Postdoc/Privatdozentin, Humboldt University of Berlin (HU), Germany
Jul 2007 Habilitation in Computer Science, Humboldt University of Berlin, Germany
Aug 2001 PhD in Mathematics, Korea Advanced Institute of Science and Technology (KAIST)

Honours and Awards

- 2025 Research Member of Simons Laufer Mathematical Sciences Institute (SLMath)
2023 Visiting Research Fellow of Merton College, University of Oxford
2022 Visiting Scientist of Simons Institute for the Theory of Computing, UC Berkeley
2019 Friedrich Wilhelm Bessel Research Award of Alexander von Humboldt Foundation
since 2016 Member of the International Mathematical Union (IMU) Circle
2015 Special Contribution Award, Korean Mathematical Society
2008 Heisenberg Fellowship of German Research Foundation

Editorial Activities

- since 2020 Editorial Board Member of *Random Structures & Algorithms*
since 2020 Editorial Board Member of *Combinatorial Theory*
since 2019 Editorial Board Member of *Annals of Combinatorics*
since 2018 Series Editor of *Mathematik Kompakt* – Springer
since 2013 Editor of *Online Journal of Analytic Combinatorics*
2012–2023 Editor-in-Chief of *Discrete Mathematics & Theoretical Computer Science*
2011–2016 Associate Editor of *SIAM Journal on Discrete Mathematics*

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Research Grants

2024–2028	FWF SFB “Discrete random structures: enumeration and scaling limits” – Subproject P5 “Phase transitions in random combinatorial structures”
2024–2028	FWF doc.funds “Discrete Mathematics in Teams” – Topic 6 “Bootstrap percolation in high-dimensional product graphs” – Topic 8 “Expected complexity of topological summaries”
2023–2026	Austrian-German joint project “Sparse random combinatorial structures”
2018–2022	Austrian-German DACH-project “Random graphs: cores, colourings and contagion”
2015–2024	FWF Doctoral Program “Discrete Mathematics” (Phases II and III) – Subproject 15 “Random graphs on a surface”
2015–2019	FWF project “Asymptotic properties of graphs on a surface”
2014–2017	FWF project “Phase transitions and critical phenomena in random graphs”
2011–2014	DFG project “Phase transitions in random graphs”

Selected Committees

- Flajolet Prize Committee, since 2023
- International Oversight Committee of Conference on Random Structures & Algorithms, since 2022
- Program Committee: SIAM DM 2026, CanaDAM 2025, SODA 2020/2009, AofA 2020/2016/2014
- Organising Committee/Co-organiser
 - 22nd International Conference on Random Structures & Algorithms 2025
 - Oberwolfach Workshop on Random Graphs 2023
 - Banff Workshop on Random Graphs and Statistical Inference (virtual) 2021
 - European Conference on Combinatorics, Graph Theory and Applications 2017
 - International Congress of Mathematicians 2014

Selected Plenary/Keynote/Invited Talks

(Link to the list of all invited talks: <https://www.math.tugraz.at/~kang/talks.pdf>)

- 31st British Combinatorial Conference, Cardiff University, UK, 2026
- SLMath Introductory Workshop - Graph Theory: Extremal, Probabilistic and Structural, 2025
- 20th International Conference on Random Structures & Algorithms, Gniezno, Poland, 2022
- Rényi 100, Section Random Graphs and Networks II, Budapest, Hungary, 2022
- 46th Intl. Workshop on Graph-Theoretic Concepts in Computer Science (virtual), Leeds, UK, 2020
- 29th Conference on Analysis of Algorithms, Uppsala, Sweden, 2018
- 27th Conference on Formal Power Series and Algebraic Combinatorics, KAIST, Korea, 2015
- Erdős Centennial, Section Random Discrete Structures, Budapest, Hungary, 2013

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Selected Publications

(Link to the list of all publications: <https://www.math.tugraz.at/~kang/papers.pdf>)

- S. Diskin, J. Erde, M. Kang, and M. Krivelevich, Isoperimetric inequalities and supercritical percolation on high-dimensional product graphs, *Combinatorica* 44 (2024), 741-784.
- J. Erde, M. Kang, and M. Krivelevich, Expansion in supercritical random subgraphs of the hypercube and its consequences, *Annals of Probability* 51 (2023), 127-156.
- M. Kang and M. Misethan, Concentration of maximum degree in random planar graphs, *J. Combin. Theory Ser. B* 156 (2022), 310-342.
- J. Erde, M. Kang, and M. Krivelevich, Large complete minors in random subgraphs, *Combinatorics, Probability and Computing* 30 (2021), 619-630.
- N. Fountoulakis, M. Kang, and T. Makai, Resolution of a conjecture on majority dynamics: rapid stabilisation in dense random graphs, *Random Structures & Algorithms* 57 (2020), 1134-1156.
- M. Kang, M. Moßhammer, and P. Sprüssel, Phase transitions in graphs on orientable surfaces, *Random Structures & Algorithms* 56 (2020), 1117-1170.
- O. Cooley, N. Del Giudice, M. Kang, and P. Sprüssel, Vanishing of cohomology groups of random simplicial complexes, *Random Structures & Algorithms* 56 (2020), 461-500.
- C. Dowden, M. Kang, and M. Krivelevich, The genus of the Erdős-Rényi random graph and the fragile genus property, *Random Structures & Algorithms* 56 (2020), 97-121.
- A. Coja-Oghlan, O. Cooley, M. Kang, and K. Skubch, Core forging and local limit theorems for the k -core of random graphs, *Journal of Combinatorial Theory, Series B* 137 (2019), 178-231.
- O. Cooley, M. Kang, and C. Koch, The size of the giant high-order component in random hypergraphs, *Random Structures & Algorithms* 53 (2018), 238-288.
- M. Behrisch, A. Coja-Oghlan, and M. Kang, Local limit theorems for the giant component of random hypergraphs, *Combinatorics, Probability and Computing* 23 (2014), 331-366.
- M. Kang, W. Perkins, and J. Spencer, The Bohman-Frieze process near criticality, *Random Structures & Algorithms* 43 (2013), 221-250.
- M. Kang and T. Łuczak, The two critical phase of a random planar graph, *Transactions of the American Mathematical Society* 364 (2012), 4239-4265.
- M. Kang and C. McDiarmid, Random unlabelled graphs containing few disjoint cycles, *Random Structures & Algorithms* 38 (2011), 174-204.
- M. Bodirsky, É. Fusy, M. Kang, and S. Vigerske, Boltzmann samplers, Pólya theory and cycle pointing, *SIAM Journal on Computing* 40 (2011), 721-769.
- M. Behrisch, A. Coja-Oghlan, and M. Kang, The order of the giant component of random hypergraphs, *Random Structures & Algorithms* 36 (2010), 149-184.
- M. Kang and M. Loebl, The enumeration of planar graphs via Wick's theorem, *Advances in Mathematics* 221 (2009), 1703-1724.
- M. Kang and T. Seierstad, The critical phase for random graphs with a given degree sequence, *Combinatorics, Probability and Computing* 17 (2008), 67-86.
- M. Bodirsky, M. Kang, M. Löffler, and C. McDiarmid, Random cubic planar graphs, *Random Structures & Algorithms* 30 (2007), 78-94.