Contact Information

Mailing Address:	Institute of Mathematics
	Budapest University of Technology (BME)
	1 Egry József u., Budapest, 1111, Hungary
E-mail:	rathb@math.bme.hu
URL:	http://www.math.bme.hu/∼rathb

Personal Data

Date of Birth:	November 5, 1980.
Place of Birth:	Budapest, Hungary
Nationality:	Hungarian
Marital status:	married
Children:	Vince, 2013.11.14

Education

1999–2005	MSc	Mathematics,	BME
2005–2010	PhD	Mathematics,	BME

Postdoc Jobs, Affiliations

2010–2012	ETH Zürich (Research Postdoc)
2012–2014	University of British Columbia (Research Postdoc)
2014–2016	Postdoc of MTA (Hungarian Academy of Sciences)
	MTA-BME Stochastics Research Group
2016–2019	Postdoc of NKFI
	(National Research, Development and Innovation Office)
2016 –	Associate Prof. of BME
2019 –	Research Fellow of MTA-BME Stoch. Research Group
2020 –	Research Fellow of Rényi Institute (Dynasnet group)

Scholarships, Grants, Decorations

2014–2017	Bolyai Research Scholarship of MTA
2018	Bolyai Plaquette (awarded by MTA)
2018–2021	Bolyai Research Scholarship of MTA
2017, 2019, 2020, 2021	ÚNKP Bolyai Plus Scholarship
2017–2022	NKFI FK Young Researcher's grant: *Large-scale behavior of random spatial processes and interacting particle systems*
2022–2026	NKFI FK Young Researcher's grant: *Random graphs and interacting particle systems*

Spoken languages

- Cambridge Certificate in Advanced English

- Intermediate exam in French

Supervision of PhD students

2021–	Márton Péter Szőke, BME
2021–	Dániel Keliger, BME

Reviewing Activities

2020–2024	Review panel member of NKFI, Hungary
2022– 2024	Associate Editor, Bernoulli Journal

Events co-organized

2022.05.09–2022.05.13	Workshop: Math. of Large Networks (Erdős Center)
2022.05.30–2022.06.03	Summer School: Math. of Large Networks (Erdős Center)
2022.06.20–2022.06.23	Rényi100 conference (Hungarian Academy of Science)
2023.07.17–2023.07.28	Focused Workshop on Networks and Their Limits (Erdős Center)

Recent Conference and Seminar talks

- *2021 May:* Analysis and Probability Seminar (online),
  Chalmers University, Gothenburg, Sweden

- *2021 May:* Probability Seminar (online),
  University of Groningen, The Netherlands

- *2021 October:* Bangalore Probability Seminar (online), India

- *2021 October:* Bristol Probability Seminar (online), UK

- *2022 February:* Delft Probability and Statistics Seminar (online),
  The Netherlands

- *2022 May:* Workshop: Graphs, Groups, Stochastic Processes,
  Rényi Institute, Hungary

- *2022 September:* Workshop on Large Scale Stochastic Dynamics,
  MFO Oberwolfach, Germany

- *2022 December:* Groups and Dynamics Seminar (online),
  University of Texas, USA

- *2023 May:* Workshop: Directions in Aggregation Processes,
  Technion, Israel

- *2023 October:* Workshop: Discrete Probability Days,
  CRM Barcelona, Spain

- *2023 November:* Probability and Dynamics online seminar,
  UVIC, Canada

- *2024 February:* New developments in random interacting systems,
  TU Munich, Germany

Publication List

1. Bálint Felszeghy, Balázs Ráth, Lajos Rónyai: The lex game and some applications

   Journal of Symbolic Computation, **41**: 663-681, 2006

2. Balázs Ráth, Bálint Tóth: Triangle percolation in mean field random graphs – with PDE

   Journal of Statistical Physics, **131(3)**: 385-391, 2008

3. Balázs Ráth, Bálint Tóth: Erdős-Rényi random graphs + forest fires = self-organized criticality

   Electronic Journal of Probability, **14**: 1290-1327, 2009

4. Balázs Ráth: Mean field frozen percolation

   Journal of Statistical Physics, **137(3)**: 459-499, 2009

5. István Kolossváry, Balázs Ráth: Multigraph limits and exchangeability

   Acta Mathematica Hungarica, **130(1-2)**: 1-34, 2011

6. Balázs Ráth, Artëm Sapozhnikov: On the transience of random interlacements

   Electronic Communications in Probability, **16**: 379-391, 2011

7. Balázs Ráth: Time evolution of dense multigraph limits under edge-conservative preferential attachment dynamics

   Random Structures and Algorithms, **41(3)**: 365-390, 2012

8. Balázs Ráth, Artëm Sapozhnikov: Connectivity properties of random interlacement and intersection of random walks

   ALEA Latin American Journal of Probability and Mathematical Statistics, **9**: 67-83, 2012

9. Balázs Ráth, László Szakács: Multigraph limit of the dense configuration model and the preferential attachment graph

   Acta Mathematica Hungarica, **136(3)**: 196-221, 2012

10. Carlos Hoppen, Yoshiharu Kohayakawa, Carlos Gustavo Moreira, Balázs Ráth, Rudini Menezes Sampaio: Limits of permutation sequences

    Journal of Combinatorial Theory, Series B, **103(1)**: 93-113, 2013

11. Balázs Ráth, Artëm Sapozhnikov: The effect of small quenched noise on connectivity properties of random interlacements

    Electronic Journal of Probability, **18(4)**: 1-20, 2013

12. Alexander Drewitz, Balázs Ráth, Artëm Sapozhnikov: Local percolative properties of the vacant set of random interlacements with small intensity

    Annales de l'Institut Henri Poincare, **50(4)**: 1165–1197, 2014

13. Alexander Drewitz, Balázs Ráth, Artëm Sapozhnikov: On chemical distances and shape theorems in percolation models with long-range correlations

    Journal of Mathematical Physics, **55**, 083307, 2014

14. Serguei Popov, Balázs Ráth: On decoupling inequalities and percolation of excursion sets of the Gaussian free field

    Journal of Statistical Physics, **159 (2)**, 312-320, 2015

15. Balázs Ráth: A short proof of the phase transition for the vacant set of random interlacements

    Electronic Communications in Probability **20 (3)**, 1-11, 2015

16. Balázs Ráth, Daniel Valesin: Percolation on the stationary distributions of the voter model. *Annals of Probability*, Volume 45, Number 3 (2017), 1899-1951.

17. Balázs Ráth: Feller property of the multiplicative coalescent with linear deletion. *Bernoulli*, Vol. 25, No. 1, 221-240. (2019)

18. James Martin, Balázs Ráth: Rigid representations of the multiplicative coalescent with linear deletion. *Electron Journal of Probability* Volume 22 (2017), paper no. 83, 47 pp.

19. Balázs Ráth, Daniel Valesin: On the threshold of spread-out voter model percolation. *Electronic Communications in Probability*, Volume 22 (2017), paper no. 50, 12 pp.

20. Balázs Ráth: A moment-generating formula for Erdős-Rényi component sizes. *Electronic Communications in Probability*, 2018, Vol. 23, paper no. 24, 1-14.

21. Edward Crane, Balázs Ráth, Dominic Yeo: Age evolution in the mean field forest fire model via multitype branching processes *Annals of Probability*, 2021, Vol. 49, No. 4, 2031-2075.

22. Balázs Ráth, Jan Swart, Tamás Terpai: Frozen percolation on the binary tree is nonendogenous *Annals of Probability* 2021, Vol. 49 (5) 2272 - 2316.

23. Balázs Ráth, Daniel Valesin: On the threshold of spread-out contact process percolation *Ann. Inst. H. Poincaré Probab. Statist.* 2022, 58(3): 1808-1848

24. Balázs Ráth, Jan Swart, Márton Szőke: A phase transition between endogeny and nonendogeny *Electronic Journal of Probability* 2022, 27: 1-43

25. Balázs Ráth, Sándor Rokob: Percolation of worms *Stochastic Processes and their Applications* 2022, Vol. 152, pp 233-288

26. Balázs Ráth, Kitti Varga, Panna Tímea Fekete, Roland Molontay: Color-avoiding percolation and branching processes *Journal of Applied Probability* Published online 2024:1-25. doi:10.1017/jpr.2023.115

27. Márton Borbényi, Balázs Ráth, Sándor Rokob: Random interlacement is a factor of i.i.d. *Electronic Journal of Probability* 2023, 28: 1-45