

Contact Information

Mailing Address: Institute of Mathematics
Budapest University of Technology (BME)
1 Egrý 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 Plaque (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: <i>Large-scale behavior of random spatial processes and interacting particle systems</i>

Spoken languages

- Cambridge Certificate in Advanced English
- Intermediate exam in French

Supervision of PhD students

2018–	Sándor Rokob, BME (joint supervision with Gábor Pete)
2021–	Márton Péter Szóke, BME
2021–	Dániel Keliger, BME

Reviewing Activities

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

Recent Conference and Seminar talks

- *2018 April:* UK Easter Probability Meeting, University of Sheffield, UK
- *2018 June:* The 40th Conference on Stochastic Processes and their Applications, Gothenburg, Sweden
- *2019 August:* Workshop on Complex Systems, UTIA, Prague, Czech Republic
- *2019 June:* Felix-Klein Colloquium, University of Leipzig, Germany
- *2019 August:* Workshop on Complex Systems, UTIA, Prague, Czech Republic
- *2019 September:* Workshop on Large Scale Stochastic Dynamics, Oberwolfach Research Institute for Mathematics, Germany
- *2020 March:* Budapest-Vienna Probability Seminar, Rényi Institute, Budapest
- *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

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 Poincaré, **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 (*accepted for publication at Annales de l'Institut Henri Poincaré, 2022*)