

VILMA ORGOVÁNYI

Egry József utca 1, 1111 Budapest, Hungary

<https://vilma.ovanyi.org>

DEGREES

Budapest University of Technology and Economics, Hungary *2019 – 2021*
MSc in Applied Mathematics, Specialized in Stochastics

- Master thesis: *The projection of the random Menger sponge*
Supervisor: Károly Simon
- Qualification of the diploma: excellent with highest honors (DGPA = 5/5)

Budapest University of Technology and Economics, Hungary *2016 – 2019*
BSc in Mathematics

- Bachelor thesis: *Mandelbrot percolations with inhomogeneous probabilities*
- Qualification of the diploma: excellent

Eötvös Loránd University, Budapest *2013 – 2016*
BA in Liberal Arts, Specialized in Philosophy and Theoretical Linguistics

- Qualification of the diploma: excellent with highest honors

LANGUAGES

Hungarian native proficiency

English full professional proficiency

CURRENT EMPLOYMENT

Budapest University of Technology and Economics
Doctoral School of Mathematics and Computer Science *2022 - Expected: 2026 summer*

- Research topic: Random fractals
- Supervisor: Károly Simon

HUN-REN-BME Stochastics Research Group *2022 Sept - 2026 Jan*
Administrator (part-time)

HUN-REN-BME Stochastics Research Group *2023 Sept – Present*
Young Research Fellow (part-time)

RESEARCH OUTPUT

Publications

1. Multitype branching processes in random environments with not strictly positive expectation matrices. (with Károly Simon.) Bernoulli (2026). arXiv:2401.12767, journal.
2. Mandelbrot percolation and some of its generalizations: A survey. (with Károly Simon). Published: Research in the Mathematical Sciences (2025). PDF, journal.
3. Projections of the random Menger sponge. (With Károly Simon.) Published: Asian J. Math. 27, No. 6, 893–936 (2023). PDF, journal.

4. Interior points and Lebesgue measure of overlapping Mandelbrot percolation sets. (With Károly Simon.) Accepted: Stochastic Processes and their Applications (2026). arXiv:2407.06750.
5. On the uniformity and size of microsets. (With Richárd Balka and Alex Rutar.) Accepted: Proc. R. Soc. Edinburgh Sect. A (2025). arXiv:2412.20594.

Preprints

1. Two-scale branching functions and inhomogeneous attractors. (With Alex Rutar.) Submitted, 2025. arXiv:2510.07013

WORK EXPERIENCE

Ericsson Hungary *2019 – 2021*
Data scientist intern

Building models (e.g. time series models) to solve telecommunication related problems using Python.

MTA-BME Stochastics Research group (Now it is called: HUN-REN-BME Stochastics Research group) *2021 Sept – 2022 Aug*
Young Research Fellow

RESEARCH FUNDING AND GRANTS

EKÖP University Research Scholarship Programme *2025 Sept – 2026 Aug*

Participation in Research Grants as a Young Research Fellow:

- **Fractal geometry and its applications research group** *2024 – Present*
- **Hyperbolic dynamical systems and fractals** *2022 – Present*
- **Dimension theory of iterated function systems** *2021 – 2024*

TEACHING

Exercise sessions *2022 – 2024, autumn semesters*

Exercise sessions in Calculus for first-year engineering students, 2 groups (14 weeks, 1.5 hours/week/group), Lecture notes were made available on my website.

Homework grader, BME *2017 – 2018*

Grading weekly homeworks and record the results (held for mathematics students) called Probability Theory, Calculus and Algebra.