

# Publications

## Research Articles in Peer-Reviewed Journals

- [1] István Kolossváry and Károly Simon. Triangular gatzouras–lalley-type planar carpets with overlaps. *Nonlinearity*, 32(9):3294, 2019.
- [2] Júlia Komjáthy, Molontay Roland, and Károly Simon. Transfinite fractal dimension of trees and hierarchical scale-free graphs. *Journal Of Complex Networks*, (published electronically):1–28, 2019.
- [3] Károly Simon and Lajos Vágó. Singularity versus exact overlaps for self-similar measures. *Proceedings of the American Mathematical Society*, 147:1971–1986, 2019.
- [4] Károly Simon and Krystal Taylor. Interior of sums of planar sets and curves. In *Mathematical Proceedings of the Cambridge Philosophical Society*, pages 1–30. Cambridge University Press, 2018.
- [5] Balázs Bárány, Michał Rams, and Károly Simon. On the dimension of triangular self-affine sets. *Ergodic Theory and Dynamical Systems*, pages 1–33, 2017.
- [6] Balázs Bárány, Michał Rams, and Károly Simon. On the dimension of self-affine sets and measures with overlaps. *Proceedings of the American Mathematical Society*, 144(10):4427–4440, 2016.
- [7] Michał Rams and Károly Simon. Projections of fractal percolations. *Ergodic Theory and Dynamical Systems*, 35(2):530–545, 2015.
- [8] Michał Rams and Károly Simon. The dimension of projections of fractal percolations. *Journal of Statistical Physics*, 154(3):633–655, 2014.
- [9] Anthony Manning and Károly Simon. Dimension of slices through the sierpinski carpet. *Transactions of the American Mathematical Society*, 365(1):213–250, 2013.
- [10] B Bárány, Mark Pollicott, and K Simon. Stationary measures for projective transformations: the blackwell and furstenberg measures. *Journal of Statistical Physics*, 148(3):393–421, 2012.

- [11] Balázs Bárány, Andrew Ferguson, and Károly Simon. Slicing the sierpiński gasket. *Nonlinearity*, 25(6):1753, 2012.
- [12] Michel Dekking, Károly Simon, and Balázs Székely. The algebraic difference of two random cantor sets: the larsson family. *The Annals of Probability*, 39(2):549–586, 2011.
- [13] Júlia Komjáthy and Károly Simon. Generating hierarchial scale-free graphs from fractals. *Chaos, Solitons & Fractals*, 44(8):651–666, 2011.
- [14] Péter Móra, Károly Simon, and Boris Solomyak. The lebesgue measure of the algebraic difference of two random cantor sets. *Indagationes Mathematicae*, 20(1):131–149, 2009.
- [15] Michel Dekking and Károly Simon. On the size of the algebraic difference of two random cantor sets. *Random Structures & Algorithms*, 32(2):205–222, 2008.
- [16] Franz Hofbauer, Peter Raith, and Károly Simon. Hausdorff dimension for some hyperbolic attractors with overlaps and without finite markov partition. *Ergodic Theory and Dynamical Systems*, 27(4):1143–1165, 2007.
- [17] Thomas Jordan, Mark Pollicott, and Károly Simon. Hausdorff dimension for randomly perturbed self affine attractors. *Communications in mathematical physics*, 270(2):519–544, 2007.
- [18] Thomas Jordan and Károly Simon. Multifractal analysis of birkhoff averages for some self-affine ifs. *Dynamical Systems*, 22(4):469–483, 2007.
- [19] Károly Simon and Boris Solomyak. Visibility for self-similar sets of dimension one in the plane. *Real Analysis Exchange*, 32(1):67–78, 2007.
- [20] Ai Hua Fan, Károly Simon, and Hajnal R Tóth. Contracting on average random ifs with repelling fixed point. *Journal of statistical physics*, 122(1):169–193, 2006.
- [21] A Manning and K Simon. Subadditive pressure for triangular maps. *Nonlinearity*, 20(1):133, 2006.

- [22] Yuval Peres, Károly Simon, and Boris Solomyak. Absolute continuity for random iterated function systems with overlaps. *Journal of the London Mathematical Society*, 74(3):739–756, 2006.
- [23] Károly Simon and Hajnal R Tóth. The absolute continuity of the distribution of random sums with digits  $\{0, 1, \dots, m-1\}$ . *Real Analysis Exchange*, 30(1):397–409, 2005.
- [24] Michael Keane, Károly Simon, and Boris Solomyak. The dimension of graph directed attractors with overlaps on the line, with an application to a problem in fractal image recognition. *Fund. Math*, 180(3):279–292, 2003.
- [25] Yuval Peres, Károly Simon, and Boris Solomyak. Fractals with positive length and zero buffon needle probability. *The American mathematical monthly*, 110(4):314–325, 2003.
- [26] Michał Rams and Károly Simon. Hausdorff and packing measure for solenoids. *Ergodic Theory and Dynamical Systems*, 23(1):273–291, 2003.
- [27] Károly Simon and Boris Solomyak. On the dimension of self-similar sets. *Fractals*, 10(01):59–65, 2002.
- [28] Yuval Peres, Michał Rams, Károly Simon, and Boris Solomyak. Equivalence of positive hausdorff measure and the open set condition for self-conformal sets. *Proceedings of the American Mathematical Society*, 129(9):2689–2699, 2001.
- [29] Károly Simon. Multifractals and the dimension of exceptions. *Real Analysis Exchange*, 27(1):191–208, 2001.
- [30] Károly Simon, Boris Solomyak, and M Urbański. Hausdorff dimension of limit sets for parabolic ifs with overlaps. *Pacific journal of mathematics*, 201(2):441–478, 2001.
- [31] Károly Simon, Boris Solomyak, and Mariusz Urbański. Invariant measures for parabolic ifs with overlaps and random continued fractions. *Transactions of the American Mathematical Society*, 353(12):5145–5164, 2001.

- [32] Yuval Peres, Károly Simon, and Boris Solomyak. Self-similar sets of zero hausdorff measure and positive packing measure. *Israel Journal of Mathematics*, 117(1):353–379, 2000.
- [33] Károly Simon and Boris Solomyak. Hausdorff dimension for horseshoes in  $r^3$ . *Ergodic Theory and Dynamical Systems*, 19(5):1343–1363, 1999.
- [34] Anthony Manning and Károly Simon. A short existence proof for correlation dimension. *Journal of statistical physics*, 90(3-4):1047–1049, 1998.
- [35] R Mauldin and Károly Simon. The equivalence of some bernoulli convolutions to lebesgue measure. *Proceedings of the American Mathematical Society*, 126(9):2733–2736, 1998.
- [36] Károly Simon. Exceptional set and multifractal analysis. *Periodica Mathematica Hungarica*, 37(1-3):121–125, 1998.
- [37] Károly Simon and Boris Solomyak. Correlation dimension for self-similar cantor sets with overlaps. *Fundamenta Mathematicae*, 155(3):293–300, 1998.
- [38] Károly Simon. The hausdorff dimension of the smale-williams solenoid with different contraction coefficients. *Proceedings of the American Mathematical Society*, 125(4):1221–1228, 1997.
- [39] Mark Pollicott and Károly Simon. The hausdorff dimension of  $\lambda$ -expansions with deleted digits. *Transactions of the American Mathematical Society*, 347(3):967–983, 1995.
- [40] Károly Simon. Hausdorff dimension for non-invertible maps. *Ergodic Theory and Dynamical Systems*, 13(1):199–212, 1993.
- [41] K Simon. The iterates are not dense in  $c$ . *Mathematica Pannonica*, 2(1):71–76, 1991.
- [42] Károly Simon. The set of second iterates is nowhere dense in  $c$ . *Proceedings of the American Mathematical Society*, 111(4):1141–1150, 1991.
- [43] K Simon. Typical continuous functions are not iterates. *Acta Mathematica Hungarica*, 55(1):133–134, 1990.

- [44] K Simon. On the periodic points of a typical continuous function. *Proceedings of the American Mathematical Society*, 105(1):244–249, 1989.
- [45] K Simon. Some dual statements concerning wiener measure and baire category. *Proceedings of the American Mathematical Society*, 106(2):455–463, 1989.
- [46] K Simon. Locally increasing points of nowhere differentiable functions. *Real Analysis Exchange*, 14(2):359–363, 1988.
- [47] K Simon. Typical continuous functions are not iterates. *Real Analysis Exchange*, 13(1):111–111, 1987.

### Conference proceedings publications

- [48] Júlia Komjáthy, Roland Molontay, and Károly Simon. Modified box dimension of trees and hierarchical scale-free graphs. In *Complex Networks 2018, The 7th International Conference of Complex Networks and their Applications, Book of Abstracts*, pages 290–293. 2018.
- [49] Károly Simon and Lajos Vágó. Fractal percolations. In *Banach Center Publications*, pages 183–196. Banach Center, 2018.
- [50] Michał Rams and Károly Simon. The geometry of fractal percolation. In *Geometry and analysis of fractals*, pages 303–323. Springer, Berlin, Heidelberg, 2014.
- [51] Károly Simon. The dimension theory of almost self-affine sets and measures. In *Fractals, Wavelets, and Their Applications*, pages 103–127. Springer, Cham, 2014.
- [52] Károly Simon and Lajos Vágó. Projections of mandelbrot percolation in higher dimensions. In *Fractals, Wavelets, and Their Applications*, pages 175–190. Springer, Cham, 2014.
- [53] Károly Simon. Hausdorff dimension of hyperbolic attractors in  $r^3$  3. In *Fractal geometry and stochastics III*, pages 79–92. Birkhäuser, Basel, 2004.

- [54] Károly Simon. Overlapping cylinders: the size of a dynamically defined cantor-set. *Ergodic Theory and Zd Actions*, 228:259, 1996.

**Some of the invited and plenary talks at Conferences since 2014:**

1. Thermodynamic Formalism: Ergodic Theory and Geometry, University of Warwick, UK, 22-26 July, 2019.
2. Invited talk on the Minisymposium "Recent Advances/Applications of Iterated Function Systems and Fractal Functions" within the 9th International Congress on Industrial and Applied Mathematics, Valencia, Spain, 15-19 July, 2019.
3. Dynamics, measures and dimensions, Bedlewo, Poland, 7-12 April, 2019.
4. International workshop and conference on topology & applications, Rajagiri School of Engineering & Technology, Cochin, India, 5-11 December, 2018.
5. Workshop on fractals II, The Hebrew University, Jerusalem, 27-31 August, 2017.
6. 7th Visegrad Conference on Dynamical Systems Opava, Czech Republic, 26-30 June 2017.
7. Just a little calculus in Dynamics, Bedlewo, Poland, 13-19 August, 2017.
8. Harmonic analysis and geometry of fractals, Ohio State University, 3-5 February, 2017.
9. Analysis on fractals and graphs workshop, Yau Mathematical Sciences Center, Sanya, China, 26-30 December, 2016.
10. Hyperbolic Dynamics and Statistical Physics, ESI, Vienna, Austria, 17-21 May, 2016.
11. Fractal Geometry, Hyperbolic Dynamics and Thermodynamical Formalism, ICERM Brown University, USA, 7-11 March, 2016.

12. Ergodic, algebraic and combinatorial methods in dimension theory, ICERM Brown University, USA, 15-19 February, 2016
13. Fractal Geometry and Dynamics, Bedlewo, Poland, 12-16, October, 2015.
14. New Directions in Fractal Geometry, ANU Canberra, Australia, 23-28 November, 2014.
15. Workshop on Fractals, The Hebrew University, Jerusalem, Israel, 8-12 June, 2014.
16. Fractal Geometry and Stochastics V, Tabarz, Germany 24-29 March, 2014.