

PUBLICATION LIST

Mária-Magdolna Ercsey-Ravasz

ISI ARTICLES

2014

1. Y. Ren, **M. Ercsey-Ravasz**, P. Wang, M.C. Gonzalez, Z. Toroczkai, "Predicting commuter flows in spatial networks using a radiation model based on temporal ranges", *Nature Communications*, accepted.
IF: 10.742 , Citations: 0
2. D. Deritei, Zs. Lazar, I. Papp, F. Jarai-Szabo, R. Sumi, L. Varga, ER Regan, **M. Ercsey-Ravasz**, "Community detection by graph Voronoi diagrams", *New Journal of Physics*, vol. 16, 063007, 2014.
IF: 3.673, Citations: 0
3. R. Sumi, B. Molnar, **M. Ercsey-Ravasz**, "Robust optimization with transiently chaotic dynamical systems", *European Physics Letters*, vol. 106, 40002, 2014.
IF: 2.260 , Citations: 0.
4. N.T. Markov, **M. Ercsey-Ravasz**, MA. Gariel, AR. Ribiero Gomes, C.Lamy, J. Vezoli, P. Misery, A. Falchier, R. Quilodran, J. Sallet, R. Gamanut, C. Huissoud, S. Clavagnier, P. Giroud, DS. Marinier, P. Barone, C. Dehay, Z. Toroczkai, K. Knoblauch, D. C. Van Essen, H. Kennedy, "High density of the interareal connectivity matrix in the macaque", *Cerebral Cortex*, vol. 24, pp. 17-36, 2014
IF: 6.828, Citations: 11

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5. **M. Ercsey-Ravasz**, N.T. Markov, C. Lamy, D.C. Van Essen, K. Knoblauch, Z. Toroczkai, H. Kennedy, "A predictive network model of cerebral cortical connectivity based on a distance rule.", *Neuron* vol. 80, pp. 184-197, 2013
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6. N.T. Markov, **M. Ercsey-Ravasz**, D.C. Van Essen, K. Knoblauch, Z. Toroczkai, H. Kennedy, "Cortical High-density Counter-stream Architectures", *Science* vol. 342, pp. 1238406:1-15, 2013
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7. N.T. Markov, **M. Ercsey-Ravasz**, C. Lamy, AR. Gomes, L. Magrou, P. Misery, P. Giroud, P. Barone, C. Dehay, Z. Toroczkai, K. Knoblauch, D.C. Van Essen, H. Kennedy. "The role of long-range connections on the specificity of the macaque interareal cortical network" *PNAS* vol. 110, pp. 5187-5192, 2013
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8. B. Molnár, **M. Ercsey-Ravasz**, „Asymmetric Continuous-Time Neural

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IF: 3.73, Citations: 1

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9. **M. Ercsey-Ravasz**, Z. Toroczkai, „The Chaos Within Sudoku”, *Scientific Reports* 2, pp. 755-762, 2012
IF: 2.927, Citations: 3
10. **M. Ercsey-Ravasz**, Z. Toroczkai, Z. Lakner, J. Baranyi, „Complexity of the international agro-food trade network and its impact on food safety”, *PloS One* 7(5), e37810, pp. 1-7, 2012.
IF: 3.73, Citations: 8
11. **M. Ercsey-Ravasz**, R. Lichtenwalter, N.V. Chawla, Z. Toroczkai, „Range-limited Centrality Measures in Weighted and Non-weighted Complex Networks”, *Physical Review E* vol. 85, 066103, pp. 1-14, 2012
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12. **M. Ercsey-Ravasz**, Z. Toroczkai, „Optimization hardness as transient chaos in an analog approach to constraint satisfaction.”, *Nature Physics* , vol. 7, pp. 966-971, 2011.
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13. N.T. Markov, P. Misery, A. Falchier, C. Lamy, J. Vezoli, R. Quilodran, P. Giroud, M.A. Gariel, **M. Ercsey-Ravasz**, L.J. Pilaz, C. Huissoud, P. Barone, C. Dehay, Z. Toroczkai, D.C. Van Essen, H. Kennedy, K. Knoblauch.
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14. **M. Ercsey-Ravasz**, Z. Toroczkai, „Centrality scaling in large networks”, *Physical Review Letters*, vol. 105, 038701, pp. 1-14, 2010
IF: 7.943, Citations: 11
15. F. Morcos, S. Chatterjee, C. L. McClendon, P.R. Brenner, R. Lopez-Rendon, J. Zintsmaster, **M. Ercsey-Ravasz**, C. R. Sweet, M.P. Jacobson, J.W. Peng, J. A. Izaguirre, “Modelling conformational ensembles of slow functional motions in Pin1-WW”, *PLoS Computational Biology* 6, e1001015, pp. 1-13, 2010.
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16. Z. Néda, R. Sumi, **M. Ercsey-Ravasz**, M. Varga, B. Molnar, Gy. Cseh,
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17. **M. Ercsey-Ravasz**, T. Roska, Z. Nédá, „Cellular Neural Networks for NP-hard optimization”, *EURASIP Journal on Advances in Signal Processing, Special issue: CNN Technology for Spatio-temporal Signal Processing*, doi: 10.1155/2009/646975, pp. 1-7, 2009.

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19. **M. Ercsey-Ravasz**, T. Roska, Z. Nédá, „Stochastic optimization of spin-glasses on cellular neural/nonlinear network based processors”, *Physica A: Statistical mechanics and its Applications*”, vol. 388, pp. 1024-1030, 2008.

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20. **M. Ercsey-Ravasz**, T. Roska, Z. Nédá, „Statistical Physics on Cellular Neural Network Computers”, *Physica D: Nonlinear Phenomena, Special Issue: „Unconventional computing: Quo vadis?”*, vol. 237, no.9, pp. 1226-1234, 2008.

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21. **M. Ercsey-Ravasz**, T. Roska, Z. Nédá, „Stochastic simulations on the cellular wave computers”, *European Journal of Physics B*, vol. 51., no. 3, pp. 407-412, 2006.

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22. **M. Ercsey-Ravasz**, T. Roska, Z. Nédá, „Perspectives for Monte Carlo simulations on the CNN Universal Machine”, *Int. Journal of Modern Physics C*, vol. 17., no.6, pp. 903-923, 2006.

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23. Z. Nédá, R. V. Florian, **M. Ravasz**, A. Libál, and G. Györgyi, „Phase transition in an optimal clusterization model”, *Physica A*, vol. 362, no. 2, pp. 357-368, 2006.

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25. **M. Ravasz**, Gy. Szabó, A. Szolnoki, "Spreading of families in cyclic predator-prey models", *Physical Review E*, vol. 70, 012901, pp.1-4, 2004.

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Total citations: 259 (September 18. 2014)

Sum of impact factors: 192.607

h-index: 8

BOOK CHAPTERS

- **M. Ercsey-Ravasz**, Z. Toroczkai, "Döntések fizikája és rejtvények káosza" ("Physics of decision making and chaos of puzzles") in *A fizika, matematika és művészet találkozása az oktatásban, kutatásban (Physics, mathematics and arts in education and research)*, Ed.: A. Juhász, T. Tél, Publisher: Science Department of the Eötvös Lóránd University, Hungary, 2013.
- N.T. Markov, **M. Ercsey-Ravasz**, M.-A. Gariel, C. Dehay, K. Knoblauch, Z. Toroczkai, H. Kennedy. "The tribal networks of the cerebral cortex", in *Cerebral Plasticity*, eds: L.M. Chalupa, N. Berardi, M. Caleo, L. Galli-Resta, T. Pizzorusso, MIT Press, Cambridge MA, 2011.
- T. Roska, L. Belády, **M. Ercsey-Ravasz**, „Cellular Wave Computing in Nanoscale via Million Processor Chips”, in *Cellular Nanoscale Sensory Wave Computing*, eds: C. Baatar, W. Porod, T. Roska. Springer, New York, 2010.

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- K. Knoblauch, **M. Ercsey-Ravasz**, H. Kennedy, Z. Toroczkai, "The Brain in Space", Proc. of *IPSEN*, Paris, May 2014.
- B. Molnar, R. Sumi, **M. Ercsey-Ravasz**, "A CNN SAT-solver robust to noise", *Proc. of the 14th IEEE Int. Conf. on Cellular Nanoscale Networks and their Applications*, PID3320585, Notre Dame, IN, USA, August 2014.
- B. Molnar, **M. Ercsey-Ravasz**, "Analog dynamics for solving max-SAT problems", *Proc. of the 14th IEEE Int. Conf. on Cellular Nanoscale Networks and their Applications*, PID3320591, Notre Dame, IN, USA, August 2014.
- I. Papp, **M. Ercsey-Ravasz**, D. Deritei, R. Sumi, F. Jarai-Szabo, R.V. Florian, A.I. Cabuz, Zs.I. Lazar, "The P-index: Hirsch index of individual publications" Proc. of the International Society of Scientometrics and Informetrics Conference, *ISSI2013*, pp. 2086-2088, Vienna, Austria, July 2013.
- B. Molnar, Z. Toroczkai, **M. Ercsey-Ravasz**, "Continuous-time neural networks without local traps for solving Boolean satisfiability", *Proc. of the 13th IEEE Int.*

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- **M. Ercsey-Ravasz**, T. Roska, Z. N eda, „Cellular Neural Networks for NP-hard optimization”, *Proc. of the 11th IEEE Int. Conf. on Cellular Neural Networks and their Applications*, (Santiago de Compostela, Spain), pp. 52-56, July 2008.
- **M. Ercsey-Ravasz**, T. Roska, Z. N eda, „Random number generator and Monte carlo type simulations on the CNN-UM”, *Proc. of the 10th IEEE Int. Conf. on Cellular Neural Networks and their Applications*, (Istanbul, Turkey), pp. 47-52, August 2006.

OTHER PUBLICATIONS

- **M. Ercsey-Ravasz**, Z. Toroczkai, "A donteshozatal es a Sudoku kaosza" ("The Chaos Within Sudoku and Decision Making"), *Termeszeti Vilaga (World of Nature)*, invited paper in the special issue "Kaosz, Kornyezet, Komplexitas" ("Chaos, Environment, Complexity"), Budapest, Hungary, p. 122, 2013
- **M. Ercsey-Ravasz**, T. Roska, Z. N eda, „Analogic Cellular Computers – A New Computational Paradigm” (in Hungarian), *Technical Review*, vol. 42. , pp. 19-25, 2008.
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- **M. Ravasz**, Z. N eda, „Fragmentation of drying granular materials on surfaces with high anisotropy” (in Hungarian), *Modern studies in experimental and theoretical physics*, Scientia, Cluj-Napoca, 2003
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ORAL PRESENTATIONS (presentator underlined)

- R. Sumi, Z. Toroczkai, **M. Ercsey-Ravasz** "Chaotic phase transition in an analog approach to constraint satisfaction" *CHAOS 2012 -5th Chaotic Modeling and Simulation International Conference* , Athen, Greece, 12-15 June, 2012

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- **M. Ercsey-Ravasz**, B. Molnar, Z. Toroczkai, „Solving constraint satisfaction problems via transiently chaotic analog systems and CNN dynamics”, *CNNA 2012*, Torino, Italy, August 2012.
- **M. Ercsey-Ravasz**, Z. Toroczkai, „Analog approaches to hard optimization: from Sudoku to CNNs”, *Statistical Mechanics of Unsatisfiability and Glasses*, Mariehamn, Finland, May 2012.
- **M. Ercsey-Ravasz**, Z. Toroczkai, H. Kennedy, N. Markov, K. Knoblauch, „A distance rule and link weights specify the inter-areal cortical network”, *NETSCI Int. Conf. On Network Science*, Budapest, Hungary, June 2011.
- **J. Baranyi**, **M. Ercsey-Ravasz**, Z. Lakner, Z. Toroczkai, „Network science offers new methods for food safety research”, *NETSCI Int. Conf. On Network Science*, Budapest, Hungary, June 2011.
- **Z. Toroczkai**, **M. Ercsey-Ravasz**, „NP-completeness as analog chaos”, *Complex Driven Systems - From Statistical Physics to the Life Sciences*, Virginia Tech, USA, October 2010.
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- **M. Ercsey-Ravasz**, „Spreading of families in predator-prey models”, *5th Scientific Conference of Transylvanian PhD Students*, Cluj-Napoca, Romania, 2004

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- L. Varga, F. Jarai-Szabo, D. deritei, Zs.I. Lazar, I. Papp, **M. Ercsey-Ravasz**, **R. Florian**, “Normalized cross-disciplinary article impact evaluation”, *Global TechMining Conference*, GTM2014, Leiden, Netherlands, 2014.
- **A.R. Gamanut**, R.B. Gamanut, A. Burkhalter, D. van Essen, **M. Ercsey-Ravasz**, Z. Toroczkai, K. Knoblauch, H. Kennedy, “Correlations between brain size and

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 - K. Knoblauch, **M. Ercsey-Ravasz**, N. Markov, J. Vezoli, M-A. Gariel, R. Quilodran, A. Falchier, S. Clavagnier, J. Sallet, P. Barone, C. Dehay, Z. Toroczkai, H. Kennedy, “Distance rules in the cortex”, *Conference of the Society for Neuroscience, Chicago*, 2009.
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