gábor**csárdi**
computer scientist

interests

Network science, graph algorithms, analysis of network data.
R programming, reproducible research.

education

2003–2008   **PhD**, *Eötvös University*, Budapest, Hungary, Computer Science.
Dissertation: Modeling complex systems as evolving networks
Summa cum laude.

1998–2003   **MSc**, *Eötvös University*, Budapest, Hungary, Computer Science.
Graduated with distinction (single in class).
Specialized in Programming Languages, Databases, Machine Learning and Economics.

experience

2011–2015   **Postdoctoral researcher**, *Department of Statistics, Harvard University*, Cambridge, MA, USA.

2008–2011   **Postdoctoral researcher**, *Computational Biology Group, Department of Medical Genetics, University of Lausanne*, Lausanne, Switzerland.

2006–2007   **Research Fellow**, *Department of Biophysics, Research Institute for Particle and Nuclear and Physics, Hungarian Academy of Sciences.*, Budapest, Hungary.

2003–2006   **Research Assistant**, *Department of Biophysics, Research Institute for Particle and Nuclear and Physics, Hungarian Academy of Sciences.*, Budapest, Hungary.

2002, 2004, 2005, 2006   **Research and teaching assistant**, *Three months each, Center for Complex Systems Studies, Kalamazoo College, Kalamazoo, MI, USA.*, Kalamazoo, MI, USA.

2002   **Erasmus student**, *Department of Biomedical Engineering, Eindhoven University of Technology*, Eindhoven, The Netherlands..

applications

2005–   **igraph**, *Library for network analysis and graph algorithms*, C/C++/R/Python, http://igraph.org.

2014–   **metacran**, *Tools for the CRAN R package repository*, R/JavaScript, https://github.com/metacran/metacran.

2011–   **MISO**, *Mixture of isoforms model for RNA-Seq isoform quantitation*, Python/C, http://genes.mit.edu/burgelab/miso/index.html.

2011–   **Other software**, *See http://github.com/gaborcsardi.*

about

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skills

Algorithms and data structures. Graph algorithms, network analysis.

Expert: R, C, Linux/Unix, Shell.
Experienced: C++, Python, JavaScript, Java, HTML/CSS, LaTeX.

SQL and noSQL databases.

Software engineering tools, git, Jenkins CI, etc.

publications

books

Csárdi, G, T Nepusz, and EM Airoldi. *Network Analysis with Python/igraph.* In preparation. Springer, 2015.

– *Network Analysis with R/igraph.* In preparation. Springer, 2015.

Kolaczyk, ED and G Csárdi. *Statistical Analysis of Network Data with R.* Springer, 2014.

articles

Csárdi, G, AM Franks, DS Choi, EM Airoldi, and DA Drummond. "Accounting for experimental noise reveals that transcription dominates control of steady-state protein levels in yeast". In: (2015). Under revision.

Franks, AM, G Csárdi, DA Drummond, and EM Airoldi. "Estimating a structured covariance matrix from multi-lab measurements in high-throughput biology". In: *Journal of the American Statistical Association* (2014). DOI: `10.1080/01621459.2014.964404`.

Artimo, P, M Jonnalagedda, K Arnold, D Baratin, G Csárdi, E de Castro, S Duvaud, V Flegel, A Fortier, E Gasteiger, A Grosdidier, C Hernandez, V Ioannidis, D Kuznetsov, R Liechti, S Moretti, K Mostaguir, N Redaschi, G Rossier, I Xenarios, and H Stockinger. "ExPASy: SIB bioinformatics resource portal". In: *Nucleic acids research* 40 (2012), W597–W603.

Verdier, V, G Csárdi, AS de Preux-Charles, JJ Médard, AB Smit, MHG Verheijen, S Bergmann, and R Chrast. "Aging of myelinating glial cells predominantly affects lipid metabolism and immune response pathways". In: *Glia* 60 (2012), pp. 751–760.

Brawand, D, M Soumillon, A Necsulea, P Julien, G Csárdi, P Harrigan, M Weier, A Liechti, A Aximu-Petri, M Kircher, FW Albert, U Zeller, P Khaitovich, F Grützner, S Bergmann, R Nielsen, S Pääbo, and H Kaessmann. "The evolution of gene expression levels in mammalian organs". In: *Nature* 478 (2011), pp. 343–348.

Henrichsen, CN, G Csárdi, MT Zabot, C Fusco, S Bergmann, G Merla, and A Reymond. "Using Transcription Modules to Identify Expression Clusters Perturbed in Williams-Beuren Syndrome". In: *PLoS computational biology* 7 (2011), e1001054.

Csárdi, G, Z Kutalik, and S Bergmann. "Modular analysis of gene expression data with R". In: *Bioinformatics* 26 (2010), pp. 1376–1377.

Liechti, R, G Csárdi, S Bergmann, T Sengstag F Schütz, SF Boj, JM Servitja, J Ferrer, LV Lommel, F Schuit, B Thorens S Klinger, N Naamane, DL Eizirik, L Marselli, M Bugliani, P Marchetti, S Lucas, C Holm, CV Jongeneel, and I Xenarios. "EuroDia: a beta-cell gene expression resource". In: *Database* 2010 (2010), baq024.

Lüscher, A, G Csárdi, AM de Lachapelle, Z Kutalik, B Peter, and S Bergmann. "ExpressionView – an interactive viewer for modules identified in gene expression data". In: *Bioinformatics* 26 (2010), pp. 2062–2063.

Strandburg, KJ, G Csárdi, J Tobochnik, P Erdi, and L Zalányi. "Patent citation networks revisited: signs of a twenty-first century change". In: *North Carolina Law Review* 87 (2008), p. 1657.

Csárdi, G, KJ Strandburg, L Zalányi, J Tobochnik, and P Érdi. "Modeling innovation by a kinetic description of the patent citation system". In: *Physica A: Statistical Mechanics and its Applications* 374 (2007), pp. 783–793.

Strandburg, KJ, G Csárdi, J Tobochnik, P Érdi, and L Zalányi. "Law and the Science of Networks: An Overview and an Application to the 'Patent Explosion'". In: *Berkeley Technology Law Journal* 21 (2007), p. 1293.

Csárdi, G and T Nepusz. "The igraph software package for complex network research". In: *InterJournal Complex Systems* (2006), p. 1695.

Bazsó, F, L Zalányi, and G Csárdi. "Channel noise in Hodgkin–Huxley model neurons". In: *Physics Letters A* 311 (2003), pp. 13–20.

Zalányi, L, G Csárdi, T Kiss, M Lengyel, R Warner, Jan Tobochnik, and P Érdi. "Properties of a random attachment growing network". In: *Physical Review E* 68 (2003), p. 066104.

other

Csárdi, G, K Strandburg, L Zalányi, J Tobochnik, and P Érdi. "Estimating the dynamics of kernel-based evolving networks". In: *Unifying Themes in Complex Systems, Proceedings of the Sixth International Conference on Complex Systems.* Ed. by A Minai, D Braha, and Y Bar-Yam. 2008, pp. 90–97.

Csárdi, G, KJ Strandburg, J Tobochnik, and P Érdi. "The inverse problem of evolving networks – with application to social nets". In: *Handbook of Large-Scale Random Networks.* Ed. by B Bollobás, R Kozma, and D Miklós. 2008, pp. 409–443.

Csárdi, G. "Dynamics of Citation Networks". In: *Artificial Neural Networks – ICANN 2006.* Ed. by SD Kollias, A Stafylopatis, W Duch, and E Oja. 2006, pp. 698–709.

awards

2012	Best 5 minute postdoc presentation at the Harvard Symposium of Applied Statistics.
2008	Scholarship to the FEBS course on "Structural variations in genome, gene expression, Single cell analysis: Arrays, Beads, High-throughput sequencing".
2006	Student grant to the International Conference on Artificial Neural Networks.
2004	Scholarship to the Santa Fé Complex Systems Summer School.
2003–2006	Young researcher scholarship of the Hungarian Academy of Sciences.
2003	Graduated in computer science with distinction, Eötvös University, Faculty of Science.
2002	Distinguished student of the faculty award, Eötvös University, Faculty of Science.
2002	Erasmus scholarship, Eindhoven University of Technology, five months.

service

Associate Editor of Journal of Statistical Software.

Reviewing for Journal of Statistical Software, Journal of Machine Learning Research, Physical Review E, Bioinformatics, Physica A, Biosystems, Computational Statistics and Data Analysis, Neural Information Processing Systems, International Conference on Artificial Intelligence and Statistics.