

CURRICULUM VITAE

Péter Csikvári

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Personal data

- Place and date of birth: Budapest (Hungary), 8th March 1984
- Nationality: Hungarian
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Education

- 1996-2002: Fazekas M. High School, class specialised in Mathematics
- 2002-2007: Eötvös Loránd University, student in Mathematics (supervisor: András Sárközy)
MSc thesis: Subset sum problems (2007)
- 2007-2011: Eötvös Loránd University, PhD student in Mathematics (supervisor: Tamás Szőnyi)
Thesis: Graph polynomials and graph transformations in algebraic graph theory (2011)

Employment

- 2010-present: Eötvös Loránd University, assistant professor
- 2010-2013: Alfréd Rényi Institute of Mathematics, young researcher
- 2013-2016: Massachusetts Institute of Technology, applied mathematics instructor

Research visits

- University of Memphis, invited by Béla Bollobás (2008, 4 months)
- Centrum Wiskunde and Informatica, Amsterdam, invited by Alexander Schrijver (2012, 1 week)
- Georgia Institute of Technology, Atlanta, invited by Prasad Tetali (2015, 1 week)

Competitions and Awards

- 3rd prize at 42rd International Mathematical Olympiad, USA, 2001
- 2nd prize at 43rd International Mathematical Olympiad, United Kingdom, 2002
- 1st prize at 10th International Mathematics Competition, Romania, 2003
- 1st prize at 12th International Mathematics Competition, Bulgaria, 2005
- Outstanding student of the Faculty of Natural Sciences, 2006 (an award by Eötvös Loránd University)
- Prize of the László Patai Foundation, 2009 (an award for young researchers by Bolyai Mathematical Society)
- Géza Grünwald prize, 2012 (an award for young researchers by Bolyai Mathematical Society)
- Junior Prima prize, 2015 (an award by the Hungarian Academy of Sciences to 10 scientists under the age of 33)

Grants

- NSF grant DMS-1500219, "Extremal graph theory, graph limits, and algebraic invariants"

Professional Activities

- Member of the editorial board of KöMaL (Mathematical and Physical Journal for Secondary Schools, published by the János Bolyai Mathematical Society and the Loránd Eötvös Physical Society) between 2002 and 2005
- Member of the János Bolyai Mathematical Society since 2005
- Local organizer of the Erdős Centennial Conference (2013 July 1-5, approximately 700 participants)
- Managing editor of the journal *Combinatorica, An International Journal on Combinatorics and the Theory of Computing*, from 2013 January 1 to 2013 August 31.
- Member of the editorial board of International Journal of Mathematics and Statistics since 2015
- One of the organizers of Combinatorics seminar at Massachusetts Institute of Technology (2015 fall-2016 spring)
- Member of the editorial board of Transactions on Combinatorics since 2016

Teaching

- Combinatorial Analysis, Massachusetts Institute of Technology (1 semester, 2016)
- Algebraic Combinatorics, Massachusetts Institute of Technology (2 semesters, 2015-2016)
- Undergraduate Discrete Mathematics Seminar, Massachusetts Institute of Technology (2 semesters, 2014)
- Exercise class in Calculus, Massachusetts Institute of Technology (2013)
- Exercise class in Discrete Mathematics I and II for undergraduate students, Eötvös Loránd University (12 semesters, 2006-2012)
- Exercise class in Discrete Mathematics for graduate students, Eötvös University (4 semesters, 2009-2012)
- Exercise class in Algebra for undergraduate students, Eötvös Loránd University (1 semester, 2009)
- Exercise class in Linear Algebra for undergraduate students, Eötvös Loránd University (1 semester, 2007)

Supervision

- Bálint Varga, Bsc thesis, Eötvös Loránd University 2012
- Ákos Kovács, Bsc thesis, Eötvös Loránd University 2013
- Gábor Szűcs, Msc thesis, Eötvös Loránd University 2013
- Ferenc Bencs, research, Eötvös Loránd University 2013–2014
- Theo McKenzie, Bsc senior thesis (shadow advisor: Sukhada Fadnavis), Harvard University 2015

Publications

- P. Csikvári: *Subset sums avoiding quadratic nonresidues*, Acta Arithmetica **135** (2008), pp. 91-98
- P. Csikvári: *A note on character sums*, Acta Math. Hungar. **123** (2009), pp. 357-363
- P. Csikvári: *On a conjecture of V. Nikiforov*, Discrete Mathematics **309** (2009), pp. 4522-4526
- P. Csikvári: *On a poset of trees*, Combinatorica **30** (2) (2010), pp. 125-137

- P. Csikvári: *Integral trees of arbitrarily large diameters*, Journal of Algebraic Combinatorics, **32** (3) (2010), pp. 371-377
- P. Csikvári and M. R. Oboudi: *On the roots of edge cover polynomials of graphs*, European Journal of Combinatorics **32** (8) (2011), pp. 1407-1416
- P. Csikvári: *Applications of the Kelmans transformation: extremality of the threshold graphs*, The Electronic Journal of Combinatorics **18** (2011), P182
- P. Csikvári and Z. L. Nagy: *Density Turán problem*, Combinatorics, Probability and Computing **21** (4) (2012), pp. 531-553
- P. Csikvári: *Two remarks on the adjoint polynomial*, European Journal of Combinatorics **33** (4) (2012), pp. 583-591
- P. Csikvári, K. Gyarmati, A. Sárközy: *Density and Ramsey type results on algebraic equations with restricted solution sets*, Combinatorica **32** (4) (2012), pp. 425-449
- P. Csikvári: *On a poset of trees II*, Journal of Graph Theory **74**(1) (2013), pp. 81-103
- P. Csikvári: *Note on the smallest root of the independence polynomial*, Combinatorics, Probability and Computing **22** (1) (2013), pp. 1–8
- P. Csikvári and P. E. Frenkel: *Benjamini-Schramm continuity of root moments of graph polynomials*, European Journal of Combinatorics (Special issue on recent advances in graphs and analysis) **52** (2016), 302–320
- P. Csikvári and Z. Lin: *Graph homomorphisms between trees*, Electronic Journal of Combinatorics 24(4) (2014), P 4.9
- P. Csikvári and Z. Lin: *Homomorphisms of trees into a path*, SIAM J. Discrete Math., **29**(3) (2015), 1406–1422.
- M. Abért, P. Csikvári, P. E. Frenkel, G. Kun: *Matchings in Benjamini–Schramm convergent graph sequences*, Trans. Amer. Math. Soc. **368** (2016), 4197-4218
- M. Abért, P. Csikvári and T. Hubai: *Matching measure, Benjamini-Schramm convergence and the monomer-dimer free energy*, Journal of Statistical Physics **161** (2015), pp. 16–34.
- P. Csikvári: *Lower matching conjecture, and a new proof of Schrijver’s and Gurvits’s theorems*, ArXiv preprint 1406.0766, accepted to the Journal of European Mathematical Society
- P. Csikvári: *Matchings in vertex-transitive bipartite graphs*, ArXiv preprint 1407.5409, accepted to Israel Journal of Mathematics

Conference talks

- British Combinatorics Conference, St. Andrews, 2009, *Graph transformations in algebraic graph theory*
- Combinatorics 2010, Verbania, *Integral trees of arbitrarily large diameters*
- Number Theory and its Applications, Debrecen, 2010, *Subset sums avoiding quadratic nonresidues*
- British Combinatorics Conference, Exeter, 2011, *Applications of the Kelmans transformation*
- Geometric and Algebraic Combinatorics 5, 2011, *Applications of the generalized tree shift*
- Algebraic Combinatorics and Graph Theory, Andries Brouwer 60, 2011, *From density Turán problem to integral trees*

- ICTP-IPM Workshop and Conference in Combinatorics and Graph Theory, Trieste, 2012, *Benjamini-Schramm continuity of root moments of graph polynomials*
- Topology and Geometry of Networks and Discrete Metric Spaces, Institute of Mathematics and its Applications, Minneapolis 2013, *Statistical matching theory* (invited speaker)
- Graph limits, groups and stochastic processes, Rényi Alfréd Institute of Mathematics 2014, *Statistical matching theory* (invited speaker)
- Groups, graphs and stochastic processes, Banff 2015, *Statistical matching theory* (invited speaker)
- Spectra of Graphs and Hypergraphs, AMS meeting, Memphis 2015 (invited speaker)
- Probabilistic and Extremal Combinatorics, AMS meeting, Fargo 2016 (invited speaker)

Selected seminar talks

- Massachusetts Institute of Technology, Combinatorics seminar, 2014
- Massachusetts Institute of Technology, Combinatorics seminar, 2015
- Georgia Institute of Technology, Combinatorics seminar, 2015
- Cornell University, Probability seminar, 2015