

Curriculum Vitae

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Primož Potočnik,

Faculty of Mathematics and Physics,
University of Ljubljana, Jadranska 19,
SI-1000 Ljubljana, Slovenia
E-mail: primoz.potocnik@fmf.uni-lj.si

Citizenship: Republic of Slovenia.

Education, Scientific Degrees and Academic Titles:

- 2000, Ph. D., University of Ljubljana.
(Thesis: Graph Symmetries and Group Actions;
advisor: Prof. Dragan Marušič.)
- 1998, M. Sc. in Mathematics, University of Ljubljana.
(Thesis: Some Classical Results on Permutation Groups;
advisor: Prof. Dragan Marušič.)
- 1995, B. Sc. in Mathematics, University of Ljubljana.
(Thesis: Vertex-transitive Graphs Which Are Not Cayley;
advisor: Prof. Dragan Marušič.)

Work Experience:

- October 2012 – present: Full Professor,
Department of Mathematics, Faculty of Mathematics and Physics, University
of Ljubljana, Slovenia.
- October 2007 – 2012: Associate Professor,
Department of Mathematics, Faculty of Mathematics and Physics, University
of Ljubljana, Slovenia.
- October 2005 – September 2007: Lecturer,
Department of Mathematics, Faculty of Mathematics and Physics, University
of Ljubljana, Slovenia.
- September 2004 – September 2005: Postdoctoral Fellow,
The University of Auckland – Department of Mathematic, Auckland, New
Zealand.
- August 2003 – January 2004: Postdoctoral Fellow,
University of Ottawa – Department of Mathematics and Statistics, Ottawa,
Canada.
- September 2002 – present: Adjoint Research Fellow,
Institute of Mathematics, Physics and Mechanics, University of Ljubljana,
Slovenia.
- October 2001 – August 2002: Assistant Professor,
Faculty of Education – Department of Mathematics and Computer Science,
University of Ljubljana, Slovenia.

- December 1995 – September 2001: Sessional Lecturer, Department of Mathematics, Faculty of Mathematics and Physics, University of Ljubljana, Slovenia.

Research Interests:

Algebraic combinatorics, permutation groups, graph theory.

Publications:

Published or Accepted for Publication in Refereed Journals

1. M. Guidici, P. Potočnik, G. Verret, *Semiregular automorphisms of edge-transitive graphs*, to appear in J. Alg. Combin.
2. M. Mačaj, M. Knor, P. Potočnik, R. Škrekovski, *Complete solution of equation $W(L^3(T)) = W(T)$ for Wiener index of iterated line graphs of trees* to appear in Disc. Appl. Math.
3. M. Mačaj, M. Knor, P. Potočnik, R. Škrekovski, *Trees T satisfying $W(L^3(T)) = W(T)$* to appear in Filomat.
4. M. Knor, P. Potočnik, R. Škrekovski, *Relationship between edge-Wiener index and Gutman index of a graph*, to appear in Disc. Appl. Math.
5. P. Potočnik, P. Spiga, G. Verret, *On the order of arc-stabilisers in arc-transitive graphs with prescribed local group*, to appear in Trans. Amer. Math. Soc.
6. P. Potočnik, *Locally arc-transitive graphs of valence $\{3, 4\}$ with trivial edge kernel* to appear in J. Alg. Combin.
7. P. Potočnik, *Tetravalent arc-transitive locally-Klein graphs with long consistent cycles*, European J. Combin. **36** (2014), 270–281.
8. P. Potočnik, S. Wilson *Linking ring structures and tetravalent semisymmetric graphs*, Ars Math. Contemp. **7** (2014), 341–352.
9. V. Andova, M. Knor, P. Potočnik, R. Škrekovski, *On a variation of Randić index*, Australasian J. Combin. **56** (2013), 61–75.
10. M. Knor, P. Potočnik, *A note on 2-subset-regular self-complementary 3-uniform hypergraphs*, Ars Combinatoria **111** (2013), 33–36.
11. M. Knor, P. Potočnik, R. Škrekovski, *Wiener index of iterated line graphs of trees homeomorphic to H* , Discrete Math. **313** (2013), 1104–1111.
12. M. Knor, P. Potočnik, R. Škrekovski, *Wiener index of iterated line graphs of trees homeomorphic to the claw $K_{1,3}$* , Ars Mathematica Contemporanea **6** (2013), 211–219.
13. P. Potočnik, P. Spiga, G. Verret, *Cubic vertex-transitive graphs on up to 1280 vertices*, J. Symbolic Comp. **50** (2013) 465–477.
14. M. E. Lladser, P. Potočnik, J. Širáň, M. C. Wilson, *The diameter of random Cayley digraphs of given degree*, Disc. Math. and Theoretical Comp. Science **14** (2012), 83–90.
15. M. Knor, P. Potočnik, R. Škrekovski, *Wiener index in iterated line graphs*, Discrete Applied Math., **160** (2012), 2234–2245.

16. M. Dutour Sikirić, M. Knor, P. Potočnik, R. Škrekovski, J. Širáň, *Hyperbolic analogues of fullerenes on orientable surfaces*, Discrete Math. **312** (2012), 729–736.
17. M. Knor, P. Potočnik, R. Škrekovski, *On a conjecture about Wiener index in iterated line graphs of trees*, Disc. Math **312** (2012), 1094–1105.
18. M. Knor, P. Potočnik, *Efficient domination in cubic vertex-transitive graphs*, European J. Combin **33** (2012), 1755–1764.
19. P. Potočnik, P. Spiga, G. Verret, *On the nullspace of arc-transitive graphs over finite fields*, J. Alg. Combin. **36** (2012), 389–401.
20. P. Potočnik, P. Spiga, G. Verret, *On graph-restrictive permutation groups*, J. Combin. Theory, Ser. B., **102** (2012), 820–831.
21. P. Potočnik, S. Wilson, *On the point-stabiliser in a transitive permutation group*, Monatshefte für Mathematik **166** (2012), 497–504.
22. P. Potočnik, P. Spiga, G. Verret, *Tetravalent arc-transitive graphs with unbounded vertex-stabilisers*, Bull. Australian Math. Soc., **84** (2011), 79–89.
23. M. Boben, Š. Miklavič, P. Potočnik, *Rotary polygons in configurations*, Electron. J. Combin. **18** (2011), paper no. 119, 1–19.
24. P. Potočnik, G. Verret, *On the vertex-stabiliser in arc-transitive digraphs*, J. Combin. Theory Ser. B. **100** (2010), 497–509.
25. M. Conder, P. Potočnik, J. Širáň, *Regular maps with almost Sylow-cyclic automorphism groups, and classification of regular maps with Euler characteristic $-p^2$* , J. Algebra **324** (2010), 2620–2635.
26. A. Orbanić, M. Petkovšek, T. Pisanski in P. Potočnik, *A note on enumeration of one-vertex maps*, Ars mathematica contemporanea **3** (2010), 1–12.
27. P. Potočnik and M. Šajna, *Brick assignments and homogeneous almost self-complementary graphs*, J. Combin. Theory, Ser. B. **99** (2009), 185–201.
28. P. Potočnik, *A list of 4-valent 2-arc-transitive graphs and finite faithful amalgams of index $(4, 2)$* European. J. Combin. **30** (2009), 1323–1336.
29. P. Potočnik and M. Šajna, *Vertex-transitive self-complementary uniform hypergraphs*, European J. Combin. **30** (2009), 327–337.
30. M. Boben, Š. Miklavič, P. Potočnik, *Consistent cycles in $\frac{1}{2}$ -arc-transitive graphs*, Electronic J. Combin. **16** (2009), # R5, 1–10.
31. P. Potočnik, M. Šajna, *The existence of regular self-complementary 3-uniform hypergraphs*, Discrete Mathematics **309** (2009), 950–954.
32. M. Conder, P. Potočnik, J. Širáň, *Regular hypermaps over projective linear groups*, J. Austral. Math. Soc. **85** (2008), 155–175.
33. Š. Miklavič, P. Potočnik, S. Wilson, *Arc-transitive cycle decompositions of tetravalent graphs*, J. Combin. Theory, Ser. B **98** (2008), 1181–1192.
34. M. Giudici, C. H. Li, P. Potočnik, and C. Praeger, *Homogeneous factorisations of graph products*, Disc. Math. **308** (2008), 3652–3667.
35. P. Potočnik and M. Šajna, *A note on transitive permutation groups of degree twice a prime*, Ars Mathematica Contemporanea **1** (2008), 165–168.

36. Š. Miklavič, P. Potočnik, S. Wilson, *Overlap in consistent cycles*, J. Graph Theory **55** (2007), 55–71.
37. P. Potočnik, S. Wilson, *Tetravalent edge-transitive graphs of girth at most 4*, Journal of Combinatorial Theory Ser. B., **97** (2007), 217–236.
38. Š. Miklavič, P. Potočnik, *Distance-regular Cayley Graphs on Dihedral Groups*, Journal of Combinatorial Theory Ser. B., **97** (2007), 14–33.
39. Š. Miklavič, P. Potočnik, and S. Wilson, *Consistent cycles in graphs and digraphs*, Graphs and Combinatorics **23** (2007), 205–216.
40. P. Potočnik, M. Šajna, *Self-complementary two-graphs and almost self-complementary double covers*, European J. Combin. **28** (2007), 1561–1574.
41. A. Malnič, Š. Miklavič, D. Marušič, P. Potočnik, *Semisymmetric elementary abelian covers of the Möbius-Kantor graph*, Discrete Mathematics **307** (2007), 2156–2175.
42. P. Potočnik, M. Šajna, G. Verret, *Mobility of vertex-transitive graphs*, Discrete Mathematics **307** (2007), 579–591.
43. M. Giudici, C. H. Li, P. Potočnik, C. Praeger, *Homogeneous factorisations of complete multipartite graphs*, Discrete Mathematics **307** (2007), 415–431.
44. Š. Miklavič, P. Potočnik, *Distance-transitive Dihedrants*, Designs, and Cryptography **41** (2006), 185–193.
45. A. Malnič and P. Potočnik, *Invariant subspaces, duality, and covers of the Petersen graph*, European J. Combin. **27** (2006), 971–989.
46. M. C. E. Conder, A. Malnič, D. Marušič, P. Potočnik, *A census of cubic semisymmetric graphs on up to 768 vertices*, J. Alg. Combin. **23** (2006), 255–294.
47. P. Potočnik and M. Šajna, *On almost self-complementary graphs*, Disc. Math. **306** (2006), 107–123.
48. M. Giudici, C. H. Li, P. Potočnik, and C. Praeger, *Homogeneous factorisations of graphs and digraphs*, European J. Combin. **27** (2006), 11–37.
49. P. Potočnik, M. Škovič, R. Škrekovski, *Nowhere-zero 3-flows in Cayley graphs of abelian groups*, Discrete Mathematics **297** (2005), 119–127.
50. M. C. E. Conder, A. Malnič, D. Marušič, T. Pisanski, P. Potočnik, *The cubic edge- but not vertex-transitive graph on 112 vertices*, J. Graph Theory **50** (2005), 25–42.
51. P. Potočnik, *Edge-colourings of cubic graphs admitting a solvable vertex-transitive group of automorphisms*, Journal of Combinatorial Theory Ser. B, **91** (2004), 289–300.
52. A. Malnič, D. Marušič, P. Potočnik, *On cubic graphs admitting an edge-transitive solvable group*, Journal of Algebraic Combinatorics **20** (2004), 99–113.
53. A. Malnič, D. Marušič, P. Potočnik, *Elementary abelian covers of graphs*, Journal of Algebraic Combinatorics **20** (2004), 71–97.
54. A. Malnič, D. Marušič, P. Potočnik, C. Q. Wang, *An infinite family of cubic edge- but not vertex-transitive graphs*, Discrete Mathematics **280** (2004), 133–148.

55. Š. Miklavič and P. Potočnik, *Distance-regular circulants*, European J. Combin. **24** (2003), 777–784.
56. D. Marušič, P. Potočnik, *Bridging semisymmetric and half-arc-transitive actions on graphs*, European J. Combin. **23** (2002), 719–732.
57. P. Potočnik, *On 2-arc-transitive Cayley graphs of abelian groups*, Discrete Mathematics **244** (2002), 417–421.
58. D. Marušič, P. Potočnik, *Classifying 2-arc-transitive graphs of order a product of two primes*, Discrete Mathematics **244** (2002), 331–338.
59. P. Potočnik, *B-groups of order a product of two primes*, Mathematica Slovaca **51** (2001), 63–67.
60. D. Marušič, P. Potočnik, *Semisymmetry of generalized Folkman graphs*, European J. Combin. **22** (2001), 333–349.
61. P. Potočnik, *Symmetry – in Graph Theory and in General* (Slovenian), Obzornik za matematiko in fiziko, **49**, (2002), 87–95.
62. P. Potočnik, *Counting - Basic and Less Basic* (Slovenian), Obzornik za matematiko in fiziko, **48**, (2001), 65–80.
63. P. Potočnik, *Electromagnetic potential of a charged moving particle* (Slovenian), Obzornik za matematiko in fiziko, **42**, (1995), 72–79.

Submitted for Publication in Refereed Journals

64. P. Potočnik, P. Spiga, G. Verret, *A census of 4-valent half-arc-transitive graphs and arc-transitive digraphs of valence two*
65. M. Conder, P. Potočnik, P. Šparl, *Some recent discoveries about half-arc-transitive graphs*
66. A. Malnič, P. Potočnik, N. Seifter, P. Šparl, *Reachability relations, transitive digraphs and groups*
67. P. Potočnik, P. Spiga, G. Verret, *Asymptotic enumeration of vertex-transitive graphs of fixed valence*
68. P. Potočnik, P. Spiga, G. Verret, *Bounding the order of the vertex-stabiliser in 3-valent vertex-transitive and 4-valent arc-transitive graphs*

Book chapters

69. T. Pisanski, P. Potočnik, Chapter *Graphs on surfaces* in “Handbook of graph theory”, The CRC Press series on discrete mathematics and its applications (2004).

Teaching Experience:

- Courses taught as an Assistant Professor (2001–present):
 - 2005– : Several introductory courses to calculus, algebra and discrete mathematics (University of Ljubljana)
 - 2002/03: Mathematics (Polytechnic, Nova Gorica, Slovenia).

2001/02: Analysis I and Discrete Structures (Faculty of Education, University of Ljubljana, Slovenia).

- Courses taught as a Sessional Lecturer (1995–2001): Calculus, Analysis I, Analysis II (for physicists), Linear Algebra, Discrete Mathematics.
- Courses taught as a Visiting Lecturer:

2003: Mathematics for data communication (University of Auckland, New Zealand)

2004: Discrete Structures (University of Auckland, New Zealand)

Conference Presentations:

- *Towards Weiss conjecture and beyond*, 7th Slovenian Graph Theory Conference, Bled, Slovenia (June 2011).
- *Census of tetravalent arc-transitive graphs*, Algebraic, Topological and Combinatorial Aspects of Graph Coverings, Auckland, New Zealand, (February 2010).
- *On the vertex-stabiliser in arc-transitive graphs and digraphs*, Workshop in Symmetries in graphs and networks, Banff, Alberta, (November 2008).
- *Linking Ring Structures*, 6th Slovenian International Conference on Graph Theory, Bled, (June 2007).
- *4-valent Edge-Transitive Graphs*, Symmetries in Graphs, Maps, and Complexes - SIGMAC 06, Aveiro, Portugalska, (julij 2006).
- *Imprimitive Groups with Blocks of Size 2*, Geometry: Interactions with Algebra and Analysis, Auckland, New Zealand, (February 2005).
- *Edge-colourings of Cubic Vertex-transitive Graphs*, The 2004 NZIMA Conference in Combinatorics and its Applications, Taupo, New Zealand, (December 2004).
- *Edge-colourings of Cubic Vertex-transitive Graphs*, Summer 2002 Meeting of Canadian Mathematical Society, Quebec, Canada, (June 2002).
- *Semisymmetry and Half-arc-transitive Group Actions*, Algebraic and Topological Methods in Graph Theory, Auckland, New Zealand, (December 2000).
- *Alterexponent of a Digraph*, 17th Ljubljana-Leoben Seminar on Discrete Mathematics, Leoben, Austria, (April 2000).
- *On Semisymmetric Graphs*, 4th Slovenian Conference on Graph Theory, Bled, Slovenia, (June 1999).
- *On 2-arc-transitivity of Cayley Graphs of Abelian Groups*, 16th Ljubljana-Leoben Seminar on Graph Theory, Kranjska Gora, Slovenia, (October 1998).
- *On 2-arc-transitive Cayley Graphs of Abelian Groups* Symmetry in Graphs, Maps and Complexes, Flagstaff, Arizona, USA, (July 1998).

Invited Lectures:

- “Edge-colourings of Cubic Vertex-transitive Graphs”, *Grafy 2009*, Terchova, Slovakia, (May 2009).
- “Graphs and their symmetries” *Colloquium of the Department of Mathematics and Statistics, Northern Arizona University*, Flagstaff, 5th February 2008.

- “Grafi, grupe in amalgami”, *Matematični kolokvij DMFA*, Ljubljana, 27th September 2005.
- “Symmetry in graphs”, *Combinatorics and Optimization Seminar*, University of Ottawa, Canada, 15 September 2003.
- “Regular Covers of Graphs and Their Symmetries”, *Algebra, Geometry and Combinatorics Seminar Series*, The University of Auckland, New Zealand, 10 March 2003.
- “Elementary Abelian Covers of Graphs”, *Groups and Combinatorics Seminar*, The University of Western Australia, Perth, Australia, 12 May 2003.
- “Flows and colourings of vertex-transitive graphs”, *Bratislavsky Seminar z Teorie Grafov*, Comenius University, Bratislava, Slovakia, September 2001;

Member of programme or organising committee at international conference:

- Member of programme committee, *Workshop on Graph Asymmetries*, Massey University, Palmerston North, New Zealand, 23. – 25. February 2005.

Longer visits of universities and research institutions:

- *Northern Arizona University*, Flagstaff, Arizona, USA, 18 February 2004 – 9 July 2004;
- *Univeristy of Ottawa*, Ottawa, Canada, 1 August 2003 – 31 January 2004;
- *University of Western Australia*, Perth, Australia, 15 April – 5 June, 2003;
- *University of Auckland*, Auckland, New Zealand, 10 February – 15 April, 2003.

Awards, honors and grants:

- *ARRS research grant*, 2011–2014, 2 FTE per year.
- *ARRS research grant*, 2008–2010, 1 FTE per year.
- *Fulbright Scholarship*, 5 months, academic year 2003/04.
- *Bilateral Project SLO-USA: “Edge-transitive graphs of small valencies”*, 2003–2005, sponsored by the Slovenian Government.