

Jan Volec – Curriculum Vitae

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Working experience

Marie Skłodowska-Curie Actions fellow at Emory University and Universität Hamburg since October 2018
CRM-ISM fellow at McGill University, Montréal Sep. 2016–Aug. 2018
Postdoctoral researcher at ETH Zürich Sep. 2014–Aug. 2016

Education

University of Warwick, PhD student in Mathematics (transferred from Charles University) Jan. 2013–Sep. 2014
jointly with Université Paris Diderot (Paris 7), PhD student in Computer Science defended Dec. 2014
★ awarded 2015 Warwick Faculty of Science Doctoral Thesis Award
Charles University in Prague, Faculty of Mathematics and Physics
PhD student in Computer Science jointly with Université Paris Diderot (Paris 7) Oct. 2011–Dec. 2012
Bachelor and Master student in Computer Science Oct. 2006–Sep. 2011
Participant of DIMACS-DIMATIA REU program, Rutgers University, NJ Summer 2008, 2009, 2011

Research Interests

Extremal and Probabilistic Combinatorics
Ramsey Theory
Structural Graph Theory

Research awards and funding

Horizon 2020 MSCA Global Fellowship, 240.000 EUR (equiv. \$271.000) 2018-2021
CRM-ISM Postdoctoral Fellowship, C\$82.000 (equiv. \$62.500) 2016-2018
Campus France – scholarship for joint PhD studies in France, 7.700 EUR (equiv. \$10.500) 2012-2014
Charles University Student Grant (GAUK), 241.000 CZK (equiv. \$12.700) 2012

Student supervision

Adrian Binding – Master thesis, ETH Zürich (co-supervised with Benny Sudakov) defended Aug. 2016
Martin Nägele – Bachelor thesis, ETH Zürich (co-supervised with Benny Sudakov) defended July 2015

Teaching experience – Research schools and lecture series

Flag Algebras and the Semidefinite method – lecturer LORIA Nancy, Feb.–Mar. 2014
Flag Algebras and the Semidefinite method – lecturer Emory University, Sep. 2013
School of Advanced Science on Algorithms, Combinatorics and Optimization – exercises São Paulo, July 2016
Research School on Regularity and Analytic Methods in Combinatorics – exercises Warwick, July 2015

Teaching experience – lectures and seminars organization

Graph Theory and Combinatorics (MATH 350)	McGill University, Fall 2016 and 2017
Graph Limits Graduate Seminar	ETH Zürich, Spring 2015

Teaching experience – exercise classes

Teaching assistant for Expander Graphs and Their Applications	ETH Zürich, Spring 2016
Teaching assistant for Algebra I	ETH Zürich, Fall 2015
Teaching assistant for Topics of Mathematics in Computer Science	ETH Zürich, Fall 2014
Teaching assistant for Discrete Mathematics and its Applications 1	University of Warwick, Fall 2013
Teaching assistant for Combinatorics and Graph Theory III	Charles University, Fall 2011
Teaching assistant for Combinatorics and Graph Theory II	Charles University, Fall 2011
Teaching assistant for Combinatorics and Graph Theory I	Charles University, Spring 2009 and 2010
Teaching assistant for Discrete Mathematics	Charles University, Fall 2008 and 2009

Publications

- A. Grzesik, P. Hu, J. Volec: *Minimum number of edges that occur in odd cycles*, to appear in *J. Combin. Theory Ser. B*.
- D. Král', S. Norin, J. Volec: *A bound on the inducibility of cycles*, *J. Combin. Theory Ser. A.* 161 (2019), 359–363.
- J. Balogh, P. Hu, B. Lidický, F. Pfender, J. Volec, M. Young: *Rainbow triangles in three-colored graphs*, *J. Combin. Theory Ser. B* 126 (2017), 83–113.
- N. Kamčev, B. Sudakov, J. Volec: *Bounded colorings of multipartite graphs and hypergraphs*, *European J. Combin.* 66 (2017), 235–249.
- B. Sudakov, J. Volec: *Properly colored and rainbow copies of graphs with few cherries*, *J. Combin. Theory Ser. B* 122 (2017), 391–416.
- J.-S. Sereni, J. Volec: *A note on acyclic vertex-colorings*, *J. Comb.* 7 (2016), 725–737.
- R. Glebov, D. Král', J. Volec: *A problem of Erdős and Sós on 3-graphs*, *Israel J. Math.* 211 (2016), 349–366.
- Z. Dvořák, J.-S. Sereni, J. Volec: *Fractional coloring of triangle-free planar graphs*, *Electron. J. Combin.* 22 (2015), #P4.11.
- J. Balogh, P. Hu, B. Lidický, O. Pikhurko, B. Udvari, J. Volec: *Minimum number of monotone subsequences of length 4 in permutations*, *Combin. Probab. Comput.* 24 (2015), 658–679.
- J. van den Heuvel, D. Král', M. Kupec, J.-S. Sereni, J. Volec: *Extensions of Fractional Precolorings show Discontinuous Behavior*, *J. Graph Theory* 77 (2014), 299–329.
- Z. Dvořák, J.-S. Sereni, J. Volec: *Subcubic triangle-free graphs have fractional chromatic number at most $14/5$* , *J. Lond. Math. Soc.* 89 (2014), 641–662.
- F. Kardoš, D. Král', J. Volec: *Maximum edge-cuts in cubic graphs with large girth and in random cubic graphs*, *Random Structures Algorithms* 41 (2012), 506–520.
- D. Král', M. Krnc, M. Kupec, B. Lužar, J. Volec: *Extending fractional precolorings*, *SIAM J. Discrete Math.* 26 (2012), 647–660.
- O. Bílka, J. Jirásek, P. Klavík, M. Tancer, J. Volec: *On the Complexity of Planar Covering of Small Graphs*, 37th Workshop on Graph-Theoretic Concepts in Computer Science, *Lecture Notes in Computer Science* 6986 (2011), 83–94.
- D. Král', P. Škoda, J. Volec: *Domination number of cubic graphs with large girth*, *J. Graph Theory* 69 (2012), 131–142.
- F. Kardoš, D. Král', J. Volec: *Fractional colorings of cubic graphs with large girth*, *SIAM J. Discrete Math.* 25 (2011), 1454–1476.

Submitted papers and preprints

- R. Glebov, D. Král', J. Volec: *Compactness and finite forcibility of graphons*, available as arxiv:1309.6695.
- X. Goaoc, A. Hubard, R. de Joannis de Verclos, J.-S. Sereni, J. Volec: *Limits of order types*, available as arxiv:1811.02236.
- A. Blumenthal, B. Lidicky, R. Martin, S. Norin, F. Pfender, J. Volec: *Counterexamples to a conjecture of Harris on Hall ratio*, available as arxiv:1811.11116.

Contributions at conferences with published proceedings

- V. Falgas-Ravry, O. Pikhurko, E. Vaughan, J. Volec: *The codegree threshold of K_4^-* , proceedings of Eurocomb'17, Electronic Notes in Discrete Mathematics 61C (2017), 407–413.
- X. Goaoc, A. Hubard, R. de Joannis de Verclos, J.-S. Sereni, J. Volec: *Limits of order types*, 31st International Symposium on Computational Geometry, Leibniz International Proceedings in Informatics 34 (2015), 300–314.
- B. Sudakov, J. Volec: *Properly colored and rainbow copies of graphs with few cherries*, proceedings of Eurocomb'15, Electronic Notes in Discrete Mathematics 49 (2015), 315–321.
- R. Glebov, D. Král', J. Volec: *A problem of Erdős and Sós on 3-graphs*, proceedings of Eurocomb'13, CRM Series 16 (2013), 3–8.
- Z. Dvořák, J.-S. Sereni, J. Volec: *Subcubic triangle-free graphs have fractional chromatic number at most 14/5*, proceedings of Eurocomb'13, CRM Series 16 (2013), 497–502.
- R. Glebov, D. Král', J. Volec: *An application of flag algebras to a problem of Erdős and Sós*, Proceedings of Erdős Centennial, Electronic Notes in Discrete Mathematics 43 (2013), 171–177.

Presentations at conferences and workshops

- 7th Polish Combinatorial Conference, Będlewo, 2018
- 23rd Midsummer Combinatorial Workshop 2018 (MCW), Prague
- 10th International Colloquium on Graph Theory and combinatorics (ICGT), Lyon, 2018
- Building bridges II. (70th birthday of László Lovász) – poster session, Budapest, 2018
- SIAM Conference on Discrete Mathematics 2018, Denver
 * co-organizer of the “Analytic and Probabilistic Techniques in Combinatorics” mini-symposium
- International Workshop on Graph Limits, Lyon, 2018
- The beauty of discrete mathematics, Montréal QC, 2017
- 9th European Conference on Combinatorics, Graph Theory and Applications 2017 (Eurocomb '17), Vienna
- 18th International Conference on Random Structures and Algorithms 2017, Gniezno
- 22nd Midsummer Combinatorial Workshop 2017 (MCW), Prague
- 2nd Mathematical Congress of the Americas 2017, Montréal QC
 * presentation invited by the “Extremal and Probabilistic Combinatorics” section organizers
- Structure in Graphs and Matroids (SiGMa), Waterloo ON, 2017
- 6th Canadian Discrete and Algorithmic Mathematics Conference (CanaDAM '17), Toronto ON
 * presentation invited by the “Extremal Combinatorics” mini-symposium organizers
- AMS Fall Western Sectional Meeting, Denver CO, 2016
 * presentation invited by the “Recent Advances in Structural and Extremal Graph Theory” special session organizers
- AMS Fall Eastern Sectional Meeting, Brunswick ME, 2016
 * presentation invited by the “New Developments in Graphs and Hypergraphs” special session organizers

SIAM Conference on Discrete Mathematics 2016, Atlanta

* *presentation invited by the "Graph Limits and Extremal Combinatorics" mini-symposium organizers*

24th Workshop Cycles and Colourings 2015, Nový Smokovec

8th European Conference on Combinatorics, Graph Theory and Applications 2015 (Eurocomb '15), Bergen

17th International Conference on Random Structures and Algorithms 2015, Pittsburgh

Adrian Bondy's 70th Birthday Conference, 2014

ICMS Workshop on Extremal Combinatorics, Edinburgh, 2014

SIAM Conference on Discrete Mathematics 2014, Minneapolis

* *presentation invited by the "Graph coloring" mini-symposium organizers*

Workshop in Combinatorics, Szeged, 2014

7th European Conference on Combinatorics, Graph Theory and Applications 2013 (Eurocomb '13), Pisa

16th International Conference on Random Structures and Algorithms 2013, Poznań

7th Czech-Slovak International Symposium on Graph Theory, Combinatorics, Algorithms and Applications 2013, Košice

Erdős Centennial – poster session, Budapest, 2013

DIMAP PhD Workshop 2013, Coventry

Probabilistic methods in Graph Theory 2012, Birmingham

Joint Mathematical Conference CSASC 2011, Krems

20th Workshop Cycles and Colourings 2011, Nový Smokovec

17th Midsummer Combinatorial Workshop 2011 (MCW), Prague

15th International Conference on Random Structures and Algorithms 2011, Atlanta

19th Workshop Cycles and Colourings 2010, Tatranská Štrba

Workshop on Extremal and Probabilistic Combinatorics 2010, Frauenchimsee

16th Midsummer Combinatorial Workshop 2010 (MCW), Prague

18th Workshop Cycles and Colourings 2009, Tatranská Štrba

14th International Conference on Random Structures and Algorithms 2009, Poznań

15th Midsummer Combinatorial Workshop 2009 (MCW), Prague

Seminars and other talks at universities

Graphs at Ryerson Seminar, Ryerson University	Nov. 2018
Extremal graph theory seminar, Institute of Computer Science, Czech Academy of Sciences	Nov. 2018
Discrete Mathematics / Algebra Seminar, University of Delaware	Oct. 2018
Combinatorics Seminar, Yale University	Oct. 2018
The CGLAB algorithms seminar, Carleton University & University of Ottawa	Oct. 2018
Noon Lectures, Charles University in Prague	Sep. 2018
Combinatorics Seminar, Georgia Institute of Technology	Mar. 2018
Combinatorics Seminar, Emory University	Mar. 2018
Math and Stats graduate student seminar, McGill University	Mar. 2018
Extremal graph theory seminar, Institute of Computer Science, Czech Academy of Sciences	Jan. 2018
Noon Lectures, Charles University in Prague	Dec. 2017
Discrete Mathematics Seminar, Iowa State University	Dec. 2017

MIT combinatorics seminar, Massachusetts Institute of Technology	Nov. 2017
The CGLAB algorithms seminar, Carleton University & University of Ottawa	Oct. 2017
Extremal graph theory seminar, Institute of Computer Science, Czech Academy of Sciences	Aug. 2017
Theoretical computer science Seminar, Jagiellonian University	Aug. 2017
Discrete Mathematics Seminar, Iowa State University	Apr. 2017
Combinatorics seminar, University of West Bohemia	Mar. 2017
MALOTEC seminar, LORIA	Mar. 2017
Discrete Math Seminar, Georgia State University	Mar. 2017
Combinatorics Seminar, Emory University	Feb. 2017
Discrete Mathematics and Optimization Seminar, McGill University	Nov. 2016
Math and Stats graduate student seminar, McGill University	Nov. 2016
Seminário de Teoria da Computação, Combinatória e Otimização, University of São Paulo	Aug. 2016
Mittagseminar, ETH Zürich	June 2016
Discrete Mathematics Seminar, Iowa State University	June 2016
Séminaire de Mathématiques Discrètes, Grenoble INP	Feb. 2016
Combinatorics Seminar, University of Warwick	Jan. 2016
Graphes@Lyon, École Normale Supérieure de Lyon	Dec. 2015
Mittagseminar, ETH Zürich	Sep. 2015
Discrete Mathematics Seminar, Iowa State University	Aug. 2015
Combinatorics Seminar, University of Birmingham	June 2015
Zürich Graduate Colloquium, ETH Zürich and University of Zürich	Feb. 2015
Mittagseminar, ETH Zürich	Sep. 2014
DIMAP Seminar, University of Warwick	May 2014
Noon Lectures, Charles University in Prague	Jan. 2014
Algorithmic aspects of combinatorics Seminar, Jagiellonian University	Dec. 2013
Combinatorics Seminar, University of Warwick	Oct. 2013
Graph Theory and Combinatorics Seminar, University of Illinois at Urbana-Champaign	Oct. 2013
Combinatorics Seminar, Georgia Institute of Technology	Sep. 2013
Combinatorics Seminar, Emory University	Sep. 2013
Graph Theory and Combinatorics Seminar, University of Illinois at Urbana-Champaign	May 2013
Combinatorics Seminar, University of Illinois at Chicago	May 2013
MIT combinatorics seminar, Massachusetts Institute of Technology	May 2013
Combinatorics, Graph Theory and Applications Seminar, UPC – BarcelonaTech	Apr. 2013
Seminarium, Adam Mickiewicz University in Poznań	Apr. 2013
Combinatorics Study Group, Queen Mary University of London	Mar. 2013
Selected Topics in Graph Theory II, University of Illinois at Urbana-Champaign	Mar. 2013
Combinatorics Seminar, University of Warwick	Mar. 2013
Seminar on Graph Theory and Algorithms, University of Ljubljana	Oct. 2011