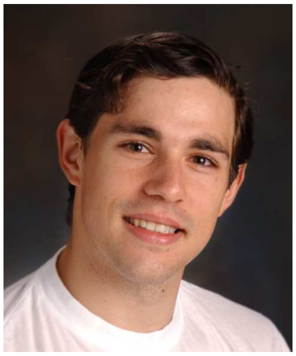
Juraj Stacho



Personal details

Citizenship: Slovakia

Age: 31

Marital Status: single

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IEOR Department
500 West 120th Street
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Education

Ph.D., Computing Science, **Simon Fraser University**, Burnaby, BC, Canada **09/2005-04/2008**

Thesis: Complexity of Generalized Colourings of Chordal Graphs
Advisor: Prof. Pavol Hell
Subject area: Algorithmic Graph Theory

Magister, Informatics, **Comenius University**, Bratislava, Slovakia **09/2000-06/2005**

Thesis: Geometric Properties of Randomly Induced Subgraphs of Bisected Hypercubes
Subject Area: Random Graphs, Probabilistic Method
Specialization(s): Theoretical Computer Science, Artificial Intelligence

Academic Awards

Simon Fraser University, Burnaby, BC, Canada

- *Dean's medal for academic excellence for 2008*
  (awarded annually to the best graduating doctoral student)

Comenius University, Bratislava, Slovakia

- *Dean's award for 2005*
  (awarded annually to selected top graduating students)

Scholarships / Fellowships

The Mathematical Sciences of Paris Foundation

- €30,000 Post-doctoral fellowship 2008-2009

Simon Fraser University, Burnaby, BC, Canada

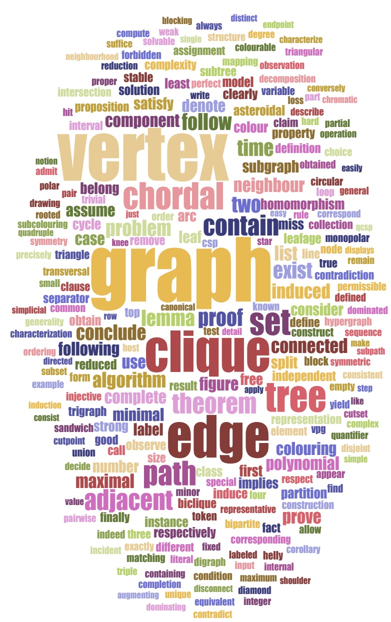
- $6,000 President's Ph.D. Research Stipend, 2008
- $3,000 Computing Science Graduate Fellowship, 2007
- $3,250 Faculty of Applied Sciences Graduate Fellowship, 2007
- $3,000 Simon Fraser University Graduate Fellowship, 2006
- $2,000 Computing Science Entrance Scholarship, 2005

Research Interests

Algorithmic and Structural Graph Theory, Combinatorics, Discrete Optimization, Bioinformatics, Algorithmic Complexity

Programming experience

C/C++, Javascript, HTML 5/CSS 3, VBA, Java, Assembly (x86)



a "word cloud" of 250 most frequent uncommon words in my publications

Employment History

Postdoctoral Research Fellow

09/2013–08/2014 **Department of Industrial Engineering and Operations Research**
Columbia University in the City of New York, New York, NY, United States
Supervisor: Prof. Maria Chudnovsky
Project: Structure of special classes of graphs and graph coloring problems

09/2011–08/2013 **DIMAP**, **University of Warwick**, Coventry, United Kingdom
Supervisor: Dr. Vadim Lozin
Project: Clique-width and well quasi-orders of graphs

10/2010–08/2011 **CRI**, **University of Haifa**, Haifa, Israel
Supervisor: Prof. Martin C. Golumbic
Project: Representation of graphs by paths in grids

01/2010–06/2010 **Wilfrid Laurier University**, Waterloo, ON, Canada
Supervisors: Prof. Kathie Cameron and Prof. Chính Hoàng
Project: Complexity of colouring in restricted classes of graphs

10/2009–12/2009 **University of Toronto**, Toronto, ON, Canada
Supervisor: Prof. Derek Corneil
Project: Efficient algorithms based on graph search

10/2008–09/2009 **LIAFA, Université Paris 7**, Paris, France
Supervisor: Prof. Michel Habib
Project: Efficient algorithms and structure of chordal graphs

Research assistant

01/2006–08/2008 **Simon Fraser University**, Burnaby, BC, Canada
Supervisor: Prof. Pavol Hell
Project: Complexity of generalized colouring problems

Software Engineer

09/2003–06/2004 **DWC Slovakia**, Bratislava, Slovakia

Teaching Experience

Full-time Instructor

09/2013–05/2014 **IEOR Department**, **Columbia University**, New York, United States
IEOR E4004 – Introduction to Operations Research: Deterministic Models, Fall 2013 (264 students)
Description: A gradute course on fundamental methods of deterministic operations research
Topics: Linear programming, Network flows, Integer programming, Dynamic programming
IEOR E4004 – Introduction to Operations Research: Deterministic Models, Spring 2014 (31 students)

Student supervision (Undergraduate projects)

01/2012–04/2012 **University of Warwick**, Coventry, United Kingdom
Erzsebet Nandorfi: *Modelling Complex Networks*
Daniel Parkes: *2-player Poker Games*

01/2010–03/2010 **Wilfrid Laurier University**, Waterloo, ON, Canada
Emily Sararas: *Graph Search*

Substitute lecturer

11/2011–02/2013 **University of Warwick**, Coventry, United Kingdom

MA241 – Combinatorics, Autumn 2011 (3hrs ∼50 students)

MA252 – Combinatorial Optimisation, Spring 2012 (3hrs ∼50 students)

MA4J3 – Graph Theory, Spring 2013 (2hrs ∼ 50 students)

CS137 – Discrete Mathematics and its Applications 2, Spring 2013 (5hrs ∼100 students)
(a mini-course on graph theory)

10/2007 **Simon Fraser University**, Burnaby, BC, Canada

MACM 101 – Discrete Mathematics I, Fall 2007 (2hrs ∼50 students)

Teaching assistant

09/2005–12/2006 **Simon Fraser University**, Burnaby, BC, Canada

MACM 101 – Discrete Mathematics I, Fall 2006 (tutorials, marking, final exam ∼180 students)

MACM 101 – Discrete Mathematics I, Spring 2006 (tutorials, marking, final exam ∼100 students)

CMPT 120 – Introduction to Computing Science and Programming I, Fall 2005
(laboratory supervision, marking, term projects, final exam ∼500 students)

Additional Academic Training

Thematic Summer schools

08/2011 **Fields Institute**, Toronto, Canada
Summer Thematic Program on the Mathematics of Constraint Satisfaction
(Algorithmic complexity of CSP – Homomorphisms, Algebraic methods, Approximating CSP)

05/2010 **McGill University**, Montreal, Canada
First Montreal Spring School in Graph Theory
(Structure of graphs forbidding induced subgraphs/minors – Perfect graphs, Rooted routing)

References

Prof. Pavol Hell (pavol@sfu.ca)
School of Computing Science, Simon Fraser University, Burnaby, BC, Canada

Prof. Michel Habib (habib@liafa.univ-paris-diderot.fr)
LIAFA – CNRS, Université Paris Diderot – Paris VII, Paris, France

Prof. Derek Corneil (dgc@cs.utoronto.ca)
Department of Computer Science, University of Toronto, Toronto, ON, Canada

Prof. Kathie Cameron (kcameron@wlu.ca)
Department of Mathematics, Wilfrid Laurier University, Waterloo, ON, Canada

Prof. Chính Hoàng (choang@wlu.ca)
Department of Physics & CS, Wilfrid Laurier University, Waterloo, ON, Canada

Prof. Martin Charles Golumbic (golumbic@cs.haifa.ac.il)
Caesarea Rothschild Institute, University of Haifa, Haifa, Israel

Dr. Vadim Lozin (V.Lozin@warwick.ac.uk)
Mathematics Institute, University of Warwick, Coventry, United Kingdom

Prof. Maria Chudnovsky (mchudnov@columbia.edu)
Department of Industrial Engineering and Operations Research, Columbia University, New York, NY, USA

PUBLICATIONS

(all authors listed in alphabetical order)

JOURNAL PUBLICATIONS (REFEREED)

[1] J. STACHO: *On P_4-transversals of chordal graphs*, Discrete Mathematics 308 (2008), pp. 5548–5554.

[2] T. EKIM, P. HELL, J. STACHO, D. DE WERRA: *Polarity of chordal graphs*, Discrete Applied Mathematics 156 (2008), pp. 2469–2479.

[3] T. FEDER, P. HELL, D. G. SCHELL, J. STACHO: *Dichotomy for tree-structured trigraph list homomorphism problems*, Discrete Applied Mathematics 159 (2011), pp. 1217–1224.

[4] M. HABIB, J. STACHO: *Reduced clique graphs of chordal graphs*, European Journal of Combinatorics 33 (2012), pp. 712–735.

[5] M. GROSHAUS, P. HELL, J. STACHO: *On edge-sets of bicliques in graphs*, Discrete Applied Mathematics 160 (2012), pp. 2698–2708.

[6] J. STACHO: *3-colouring AT-free graphs in polynomial time*, Algorithmica 64 (2012), pp. 384–399, journal version of [16].

[7] M. HABIB, J. STACHO: *Unique perfect phylogeny is intractable*, Theoretical Computer Science 476 (2013), pp. 47–66, journal version of [17].

[8] S. CHAPLICK, J. STACHO: *Vertex leafage of chordal graphs*, Discrete Applied Mathematics 168 (2014), pp. 14–25.

[9] M. FRANCIS, P. HELL, J. STACHO: *Blocking quadruple: a new obstruction to circular-arc graphs*, SIAM Journal on Discrete Mathematics 28 (2014), pp. 631–655, journal version of [21].

[10] D. CORNEIL, J. STACHO: *Vertex ordering characterizations of graphs of bounded asteroidal number*, Journal of Graph Theory (2014+) to appear.

[11] K. K. DABROWSKI, V. V. LOZIN, J. STACHO: *Stable-Π partitions of graphs*, Discrete Applied Mathematics (2014+) to appear, DOI: 10.1016/j.dam.2013.07.001.

CONFERENCE PUBLICATIONS (REFEREED)

[12] P. HELL, A. RASPAUD, J. STACHO: *On injective colourings of chordal graphs*, In: LATIN 2008: Theoretical Informatics, Lecture Notes in Computer Science 4957/2008, pp. 520–530.

[13] J. STACHO: *On 2-subcolourings of chordal graphs*, In: LATIN 2008: Theoretical Informatics, Lecture Notes in Computer Science 4957/2008, pp. 544–554.

[14] M. HABIB, J. STACHO: *A decomposition theorem for chordal graphs and its applications*, In: European Conference on Combinatorics, Graph Theory and Applications (EUROCOMB 2009), Electronic Notes in Discrete Mathematics 34 (2009), pp. 561–565.

[15] M. HABIB, J. STACHO: *Polynomial-time algorithm for the leafage of chordal graphs*, In: Algorithms - ESA 2009, Lecture Notes in Computer Science 5757/2009, pp. 290–300.

[16] J. STACHO: *3-colouring AT-free graphs in polynomial time*, In: Algorithms and Computation (ISAAC 2010), Lecture Notes in Computer Science 6507/2010, pp. 144–155.

[17] M. HABIB, J. STACHO: *Unique perfect phylogeny is NP-hard*, In: Combinatorial Pattern Matching (CPM 2011), Lecture Notes in Computer Science 6661/2011, pp. 132–146.

[18] S. CHAPLICK, E. COHEN, J. STACHO: *Recognizing some subclasses of vertex intersection graphs of 0-bend paths in a grid*, In: Graph-Theoretic Concepts in Computer Science (WG 2011), Lecture Notes in Computer Science 6986/2011, pp. 319–330.

[19] M. ADAMASZEK, J. STACHO: *Algorithmic complexity of finding cross-cycles in flag complexes*, In: Proceedings of the 2012 Symposium on Computational Geometry (SoCG 2012), pp. 51–60.

[20] F. MADELAINE, B. MARTIN, J. STACHO: *Constraint Satisfaction with Counting Quantifiers*, In: Computer Science - Theory and Applications (CSR 2012), Lecture Notes in Computer Science 7353/2012, pp. 253–265.

[21] M. FRANCIS, P. HELL, J. STACHO: *Obstructions to chordal circular-arc graphs of small independence number*, In: Seventh Latin-American Algorithms, Graphs, and Optimization Symposium (LAGOS 2013), Electronic Notes in Discrete Mathematics 44 (2013), pp. 75–81.

[22] B. MARTIN, J. STACHO: *Constraint Satisfaction with Counting Quantifiers 2*, In: Computer Science - Theory and Applications (CSR 2014), Lecture Notes in Computer Science 8476/2014, pp. 259–272.

[23] S. CHAPLICK, P. DORBEC, J. KRATOCHVÍL, MICKAEL MONTASSIER, J. STACHO: *Contact Representations of Planar Graph: Rebuilding is Hard*, In: Graph-Theoretic Concepts in Computer Science (WG 2014), Lecture Notes in Computer Science, to appear.

CONFERENCE PUBLICATIONS (UNREFEREED)

[24] M. HABIB, J. STACHO: *Linear algorithms for chordal graphs of bounded directed vertex leafage*, In: DIMAP Workshop on Algorithmic Graph Theory, Electronic Notes in Discrete Mathematics 32 (2009), pp. 99–108.

SUBMITTED (MONTH/YEAR)

[25] R. BRIGNALL, V. V. LOZIN, J. STACHO: *Bichain graphs: geometric model and universal graphs* (01/2014)

[26] D. CATANZARO, S. CHAPLICK, S. FELSNER, B. V. HALLDÓRSSON, M. M. HALLDÓRSSON, T. HIXON, J. STACHO: *Max Point-Tolerance Graphs* (04/2014)

[27] A. ATMINAS, R. BRIGNALL, N. KORPELAINEN, V. V. LOZIN, J. STACHO: *Minimal Classes of Bipartite Graphs of Unbounded Clique-width* (05/2014)

INVITED PRESENTATIONS

06/2008 *On injective colourings of chordal graphs*
Minisymposium on Graph Coloring (part of SIAM-DM 2008), Burlington, VT, USA

05/2009 *Gyárfás' conjecture: useful techniques and small cases*
DIMACS workshop on Graph Colouring and Structure, Princeton, NJ, USA

06/2009 *Implicit representations and linear algorithms for classes of chordal graphs*
Workshop on Current Trends in Theoretical Informatics (STTI 2009), Prague

06/2011 *Unique perfect phylogeny is NP-hard*
Minisymposium on Bioinformatics (part of CanaDAM 2011), Victoria, BC

02/2012 *Algorithmic complexity of finding cross-cycles in flag complexes*
ACiD seminars, School of Engineering and Computing Sciences, Durham University, Durham, UK

03/2012 *Constraint Satisfaction with Counting Quantifiers*
AlGCo seminars, LIRMM - University of Montpellier 2, Montpellier, France

04/2012 *Constraint Satisfaction with Counting Quantifiers*
Departamento de Matemática, University of La Plata, La Plata, Argentina

04/2012 *Algorithmic complexity of finding cross-cycles in flag complexes*
Instituto de Cálculo, University of Buenos Aires, Buenos Aires, Argentina

03/2013 *Complexity of low-speed graph partitioning*
ToCAI seminars, School of Science and Technology, Middlesex University, London, UK

06/2013 *Stable-*Π *partitions*
Minisymposium on Partitioning Graphs (part of CanaDAM 2013), St. John's, NL

CONFERENCE PRESENTATIONS

05/2007 *On 2-subcolourings of chordal graphs*
Canadian Discrete and Algorithmic Mathematics Conference (CanaDAM 2007), Banff, AB

04/2008 *On injective colourings of chordal graphs*
Latin American Symposium on Theoretical Informatics (LATIN 2008), Búzios, Brazil

04/2008 *On 2-subcolourings of chordal graphs*

Latin American Symposium on Theoretical Informatics (LATIN 2008), Búzios, Brazil

06/2008 *Complexity of generalized colourings of chordal graphs*
SIAM Conference on Discrete Mathematics 2008 (SIAM-DM 2008), Burlington, VT, USA

03/2009 *Linear algorithms for chordal graphs of bounded directed vertex leafage*
DIMAP workshop on Algorithmic Graph Theory, Coventry, United Kingdom

05/2009 *Dichotomy for tree-structured trigraph list homomorphism problems*
Canadian Discrete and Algorithmic Mathematics Conference (CanaDAM 2009), Montreal, QC

09/2009 *Polynomial-time algorithm for the leafage of chordal graphs*
European Symposium on Algorithms (ESA 2009), Copenhagen, Denmark

06/2010 *Elimination orderings of graphs of bounded asteroidal number*
SIAM conference on Discrete Mathematics (SIAM-DM 2010), Austin, TX, United States

06/2011 *Recognizing some subclasses of vertex intersection graphs of 0-bend paths in a grid*
Graph-Theoretic Concepts in Computer Science (WG 2011), Teplá, Czech Republic

06/2011 *Unique perfect phylogeny is NP-hard*
Combinatorial Pattern Matching (CPM 2011), Palermo, Italy

06/2012 *Atomic structure, hyperbolicity, and recognition of AT-free graphs with no induced 4-cycles*
SIAM conference on Discrete Mathematics (SIAM-DM 2012), Halifax, NS

04/2013 *Obstructions to chordal circular-arc graphs of small independence number*
Latin-American Algorithms, Graphs, and Optimization (LAGOS 2013), Playa del Carmen, Mexico

Other talks

06/2013 *Obstructions to intersection families of graphs*
Combinatorics seminar, Mathematics Institute, University of Warwick, Coventry, UK

09/2013 *Bichain graphs - geometric model, universal graphs, and cliquewidth*
Columbia Discrete Math Seminar, IEOR Department, Columbia University, New York, NY

Other Information

Academic service

Co-organized Warwick Combinatorics Seminar at the University of Warwick in 2012-13

Co-organized Haifa Workshop on Intersection Graphs (pre-workshop of WG 2012), June 2012

Served as an external examiner in a PhD. committee - Pablo de Caria, University of La Plata, April 2012

Organized Homomorphism Reading Group at Simon Fraser University in 2007-08

Referee (journals)

Journal of Graph Theory, Discrete Mathematics, Discrete Applied Mathematics, SIAM Journal on Discrete Mathematics, Czechoslovak Mathematical Journal, Ars Combinatoria, Information Processing Letters, Annals of Mathematics and Artificial Intelligence, Journal of the Brazilian Computer Society, International Journal of Computer Mathematics, Australasian Journal of Combinatorics

Referee (conferences)

ICALP 2009, WG 2010, ICALP 2011, LATIN 2012, STACS 2012, RECOMB 2012

Membership

Society for Industrial and Applied Mathematics (SIAM)