

Marcin Wrochna

Education

- September 2014 – (2018) **PhD studies in Computer Science**, *University of Warsaw*, Faculty of Mathematics, Informatics and Mechanics.
Thesis: [The topology of solution spaces of combinatorial problems](#), advisor: Michał Pilipczuk.
Expected defense: end of October 2018
- September 2012 – June 2014 **Master in Computer Science**, *University of Warsaw*, Faculty of Mathematics, Informatics and Mechanics.
Thesis: [Reconfiguration and structural graph theory](#), advisor: Marcin Kamiński.
- September 2009 – June 2012 **Bachelor in Computer Science**, *University of Warsaw*, Faculty of Mathematics, Informatics and Mechanics.
As part of interfaculty studies at the [College of Inter-Faculty Individual Studies in Mathematics and Natural Sciences](#), where I additionally attended most courses of *individualised studies* (an advanced programme) at the Faculty of Physics.
- September 2006 – June 2009 **14th Secondary School in Warsaw**, mathematical-experimental program.

Academic career

- 2017 – (2019) Principal Investigator in PRELUDIUM research grant *The topology of solution spaces of combinatorial problems* funded by the Polish National Science Center.
- 2017 – (2018) Investigator in ERC Starting Grant *CUTACOMBS* led by Marcin Pilipczuk.
- 2014 – 2017 Investigator in SONATA research grant *Optimality in Parameterized Complexity* led by Michał Pilipczuk, funded by the Polish National Science Center.
- 2012 – 2014 Investigator in Homing Plus research grant *Graphs within graphs: algorithmic and combinatorial aspects of graph containment relations* led by Marcin Kamiński, funded by the Foundation for Polish Science.

Awards and scholarships

- 2017 START stipend for young, talented researchers, funded by the Foundation for Polish Science
- 2016 Young Author Prize at the Bordeaux Graph Workshop for *"Square-free graphs are multiplicative"*
- 2016 Best paper award at IPEC 2016 for *"Cutwidth: obstructions and algorithmic aspects"* (joint work with Archontia Giannopoulou, Michał Pilipczuk, Jean-Florent Raymond, Dimitrios Thilikos)
- 2014 Second award (ex aequo) in the XXXI competition for best master thesis in computer science in Poland in 2014, organized by Polskie Towarzystwo Informatyczne (PTI).
- 2010-2014 Scholarship for academic achievements (*studia zamawiane*)
- 2013-2014 Dean's scholarship for academic achievements
- 2009 [Laureate](#) of the 16th Polish Computing Olympiad
- 2009 Finalist of the 58th Polish Physics Olympiad

Research visits

- 2017 5 weeks collaboration with Daniel Král', Taísa L. Martins and Péter Pál Pach at the University of Warwick, DIMAP Centre
- 2017 1 week collaboration with Claude Tardif at Queen's University, Kingston, Ontario
- 2016 2 weeks collaboration at the Bergen Algorithms Research Group, Norway
- 2016 2 weeks collaboration with Marthe Bonamy at LaBRI (Laboratoire Bordelais de Recherche en Informatique) in Bordeaux, France
- 2015 1 week collaboration with Fedor V. Fomin, Daniel Lokshtanov and Saket Saurabh at the Bergen Algorithms Research Group, Norway
- 2014 2 weeks collaboration with Naomi Nishimura and Amer Mouawad at the University of Waterloo, Canada

Conference presentations

(At international conferences, as the only speaker.)

- **Fully polynomial-time parameterized computations for graphs and matrices of low treewidth**
ACM-SIAM Symposium on Discrete Algorithms (SODA 2017)
January 16–19, 2017, Barcelona, Spain
(joint work w. Fedor Fomin, Daniel Lokshtanov, Michał Pilipczuk, Saket Saurabh).
- **A Topological Approach Related to Hedetniemi's Conjecture**
SIAM Conference on Discrete Mathematics (SIAM DM 2016)
June 6–10, 2016, Atlanta, Georgia, USA
(based on the paper *Square-free graphs are multiplicative*).
- **On space efficiency of algorithms working on structural decompositions of graphs**
33rd Symposium on Theoretical Aspects of Computer Science (STACS 2016)
February 17–20, 2016, Orléans, France
(joint work with Michał Pilipczuk).
- **On space efficiency of algorithms working on structural decompositions of graphs**
7th Workshop on Graph Classes, Optimization and Width Parameters (GROW 2015)
October 11–15, 2015, Aussois, France
- **Homomorphism reconfiguration via homotopy**
32nd Symposium on Theoretical Aspects of Computer Science (STACS 2015)
March 4–7, 2015, Munich, Germany.
- **Reconfiguring independent sets in claw-free graphs**
14th Scandinavian Symposium and Workshops (SWAT 2014),
July 2–4, 2014, Copenhagen, Denmark
(joint work with Paul Bonsma, Marcin Kamiński).

Seminar talks

- **Coloring graph products and Hedetniemi's conjecture**
University of Warwick, DIMAP Centre, UK, October 3, 2017
- **A topological approach related to Hedetniemi's conjecture**
University of Warsaw, Algorithms Seminar, April 20, 2017
- **Square-free graphs are multiplicative**
Adam Mickiewicz University, Discrete Maths, Poznań, Poland, February 28, 2017

- **Coloring graph products by looking at spaces of colorings**
Warsaw University of Technology, Combinatorics, Graph and Poset Theory Seminar, Warsaw, Poland, December 7, 2016
- **Recolorer des homomorphismes de graphes via de la topologie élémentaire**
University of Bordeaux, LaBRI, GT Graphs and Optimization, November 4, 2016
- **Algorithms for graphs and matrices in $\text{poly}(tw) \cdot n$ time**
Bergen Algorithms Research Group, Norway, October 21, 2016

Community service

Reviews for journals

2018: 2×ACM TALG, JGT, JOCO, TCS, ...
 2017: SIDMA, AMC, Algorithmica, 3×DM, 2×TCS
 2016: JCTB, TALG, JCSS, Algorithmica, IPL, DO, 2×DM, TCS
 2015: SIDMA, EuJComb, JDA, Algorithmica, DAM, DO, 2×TCS
 2014: IEICE Trans.

Reviews for conferences

2018: ICALP, ESA, WG, ...
 2017: 4×SODA, 2×ICALP, 2×STACS, 2×IPEC, 2×MFCS, ISAAC, COCCON, ESA
 2016: ICALP, 2×STACS, SIAM DM, 3×ESA, 2×IPEC, COCOON, FSTTCS, SWAT, WG
 2015: ICALP, ESA, LATIN, WALCOM
 2014: SODA, ICALP

Miscellanea

- Polish, English, French, some German and Russian
- C++17, Bash, some experience with Python, JS (Node.js), PHP (Apache)
- I contribute at [Wikipedia](#)
- My [GitHub account](#) has a few small public projects