

Zuzana Patáková

✉ IST Austria, Am Campus 1, Klosterneuburg 3400, Austria

✉ zuzka@kam.mff.cuni.cz

🌐 <http://kam.mff.cuni.cz/~zuzka>

Postdoctoral experience

- since 11/2016 **Postdoctoral fellow** at IST Austria. Supervisor: *Uli Wagner*
- 11/2015 – 10/2016 **Postdoctoral fellow** at Hebrew University of Jerusalem.
Supervisors: *Karim Adiprasito* and *Gil Kalai*

Education

- 2010 – 2015 **Ph.D. in Computer Science, Charles University, Prague**
Thesis: *Problems in discrete geometry*. Supervisor: Jiří Matoušek
- 2012 **RNDr. in Mathematics, Charles University, Prague**
- 2008 – 2010 **Mgr. (Hons.) in Mathematics, Charles University, Prague**
Thesis: *Reptile simplices*. Supervisor: Jiří Matoušek
- 2005 – 2008 **Bc. (Hons.) in Mathematics, Charles University, Prague**
Thesis: *Perfektní dláždění simplexů*. Supervisor: Jiří Matoušek

Research

- Interests** **Discrete and computational geometry, algebraic techniques with emphasis on polynomial method, Ramsey theory, algebraic topology**

Experience

- 3-4/2014 **Algebraic Techniques for Combinatorial and Computational Geometry, IPAM UCLA Los Angeles, USA**
- 10-11/2010 **Special Semester on Discrete and Computational Geometry, EPFL Lausanne, Switzerland**
- 6-7/2008,2009 **Research experience for undergraduates, DIMACS/DIMATIA, Piscataway, New Jersey, USA & Prague**

Awards and Achievements

- 2017 **Bolzano Prize** given by Charles University, for a work *Bounding Helly numbers via Betti numbers*
- 2011-2013 **Principal researcher of a student research grant GAUK, Algebraic and topological methods in computational geometry, Grant Agency of Charles University**
- 2010 **SVOČ (University student research competition), First Prize** for a work *Reptile simplices, Ostrava*
- 2007 **IMC (International Mathematics Competition for University Students), Honorable Mention, Blagoevgrad, Bulgaria**

Miscellaneous

Organizational experience

- 2016 **International conference The Mathematics of Jiří Matoušek**, Prague
- 2015 **Midsummer Combinatorial Workshop**, Prague
- 2013 **KAMÁK**, open problem workshop, Vranov nad Dyjí
- 2011–2012 **Editor of ITI series**, a prepublication medium of IUUK–CE–ITI, Charles University
- 2008–2010 **Spring School on Combinatorics**, Borová Lada/Rokytnice nad Jizerou
- 2006–2010 **MKS MFF UK**, correspondence seminar in maths for high school students
- 2005–2006 **PIKOMAT MFF UK**, correspondence seminar in maths for elementary school pupils

Referee for journals and conferences

Symposium on Discrete Algorithms (SODA), Symposium on Computational Geometry (SoCG), European Symposium on Algorithms (ESA), Discrete and Computational Geometry (DCG), Electronic Journal of Combinatorics (E-JC), Mathematical Foundations of Computer Science (MFCS), Discrete Mathematics & Theoretical Computer Science (DMTCS)

Teaching experience

Discussion sessions at Charles University

- 2012–2015, winter terms **Mathematics ++**
- 2010–2012, 2014–2015, winter terms **Discrete and computational geometry I**
- 2011–2014, summer terms **Discrete and computational geometry II**
- 2009–2010, winter term **Discrete mathematics**
- 2008–2009, 2010–2011, summer terms **Linear algebra II**

Selected talks at international workshops and conferences

- 2018 **Workshop “Extremal Problems in Combinatorial Geometry”**, Banff, Canada.
Title: *On intersection patterns of sets in the plane*
- 2017 **Workshop “Computational Geometry”**, Dagstuhl, Germany.
Title: *Colorful simplicial depth, Minkowski sums, and Generalized Gale transforms*
- 2016 **Workshop “Topology and Geometry in a Discrete Setting”**, ICERM Providence.
Title: *Colorful simplicial depth*
The Mathematics of Jiří Matoušek, Prague, invited speaker.
Title: *Colorful simplicial depth*
- 2015 **Discrete Geometry Workshop**, Moscow 2015, by invitation only.
Title: *Multilevel polynomial partitions*
Symposium on Computational Geometry (SoCG), Eindhoven.
Title: *On Generalized Heawood Inequalities for Manifolds*
- 2014 **Workshop “Tools from Algebraic Geometry”**, UCLA, Los Angeles, invited speaker.
Title: *On the nonexistence of k -reptile simplices in \mathbb{R}^3 and \mathbb{R}^4*
Summit240, Budapest.
Title: *Improved bounds for Pach’s selection theorem*
- 2013 **Eurocomb’13**, Pisa.
Title: *Simplifying inclusion-exclusion formulas*
Title: *On the nonexistence of k -reptile simplices in \mathbb{R}^3 and \mathbb{R}^4*