

# Bernard Lidický

## *curriculum vitae*

Department of Mathematics  
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### Education:

PhD. Charles University, Prague 10/2007–07/2011  
Thesis: *Graph coloring problems*, advisor Jiří Fiala

Master's degree, Charles University, Prague 10/2002–09/2007  
Thesis: *Variants of the coloring problem*, advisor Jiří Fiala

### Appointments:

Assistant Professor 08/2014–to date  
Iowa State University, USA

J. L. Doob Research Assistant Professor (postdoc) 08/2011–08/2014  
University of Illinois at Urbana-Champaign, USA

Intern 11/2010–04/2011  
Mitsubishi Electric Research Laboratories, USA

Junior researcher 10/2007–08/2011  
Charles University in Prague, Czech Republic

### Awards:

- co-PI of NSF grant DMS-1266016 (PI A. Kostochka, \$269.919) 2013–2015
- IMA grant supporting the Excill II conference at UIUC, March 2013, (joint with J. Balogh, A. Kostochka, and D. West, \$4.000) 2013
- AMS-Simons Travel Grant (\$4.000) 2012–2013
- Charles University student research grant (PI, equiv. \$30.000) 2010–2011
- Merit scholarship 2004–2007

### Professional Service:

- Organizer of conference Extremal Combinatorics at Illinois 2, Urbana 2013
- Organizer of Graph Theory seminar, UIUC 2012–2014
- Organizer of Midsummer Combinatorial Workshop XVII, Prague 2011
- Organizer of Spring School of Combinatorics, Czech Republic 2006, 2007

- Graduate coordinator for Research Experience for Undergraduates, Rutgers University, USA 2010
- Member of six thesis defense committees, UIUC 2012–2014
- Member of nine prelim exam committees, UIUC 2011–2014
- Referee for journals and conferences. In particular, SIAM J. Discrete Math., Discrete Applied Math., J. Graph Theory, Electronic Journal of Combinatorics, Discrete Math., SODA, Eurocomb.

### Pending patents:

- US patent publication 20130151107 *Method for Optimizing Run Curve of Vehicles*, (joint with D. Nikovski) 2013

### Invited session talks and colloquia:

- SUMMIT 190, Szeged, Hungary, *Flag Algebras and Iterated Blow-ups* July 2014
- SIAM conference on Discrete Mathematics '14, Minneapolis, MN, USA, *Rainbow triangles in 3-edge-colored graphs* June 2014
- 1<sup>st</sup> Lake Michigan Workshop on Combinatorics and Graph Theory, Kalamazoo, MI, USA, *Monotone subsequences in permutations* March 2014
- Colloquium, Emory University, Atlanta, GA, USA, *Applications of Flag Algebras in Hypercubes and Permutations* February 2014
- Colloquium, Iowa State University, Ames, IA, USA, *Applications of Flag Algebras in Hypercubes and Permutations* January 2014
- Atlanta Lecture Series, Atlanta, GA, USA, *Number of monotone subsequences of length four in permutations* January 2014
- AMS national meeting, Baltimore, MD, USA, *Use of flag algebras with permutations* January 2014
- Colloquium, Miami University, Oxford, OH, USA, *Flag algebras and its applications* December 2013
- AMS meeting #1092, Louisville, KY, USA, *3-coloring triangle-free planar graphs with a precolored 8-cycle* October 2013
- AMS meeting #1089, Boulder, CO, USA, *Short proofs of coloring theorems on planar graphs* April 2013
- AMS meeting #1087, Oxford, MS, USA, *Short proofs of coloring theorems on planar graphs* March 2013
- SIAM conference on Discrete Mathematics '12, Halifax, NS, Canada, *4-critical graphs on surfaces without contractible cycles of length at most 4* June 2012
- SIAM conference on Discrete Mathematics '12, Halifax, NS, Canada,  *$L(2, 1, 1)$ -labeling is NP-complete for trees* June 2012
- AMS meeting #1080, Washington DC, USA, *Upper bounds on the size of 4- and 6-cycle-free subgraphs of the hypercube* March 2012

- 7<sup>th</sup> Slovenian International Conference on Graph Theory, Bled, Slovenia, *Packing Coloring and Grids* June 2011

### Contributed talks:

- 27<sup>th</sup> Cumberland Conference on Combinatorics, Graph Theory & Computing, Morgantown, WV, USA, *On the Tree Search Problem with Non-uniform Costs* May 2014
- 7<sup>th</sup> Symposium on Graph Theory, Combinatorics, Algorithms and Applications, Košice, Slovakia, *4-critical planar graphs with four triangles* July 2013
- Midwest Graph Theory Conference LIV, Oxford, OH, USA, *3-coloring planar graphs with four triangles* April 2013
- Midwest Graph Theory Conference LIII, Ames, IA, USA, *4-critical graphs on surfaces without contractible cycles of length at most 4* September 2012
- 25<sup>th</sup> Cumberland Conference, Johnson City, TN, USA, *The planar slope-number of planar partial 3-trees of bounded degree* May 2012
- CanaDAM, Victoria, BC, Canada, *List coloring and crossings* May 2011
- Cycles and Colourings, Tatranská Štrba, Slovakia, *Packing chromatic number for square and hexagonal lattices* September 2010
- SIAM conference on Discrete Mathematics '10, Austin, TX, USA, *5-coloring graph with 4 crossing* June 2010
- Algebraic, Topological and Complexity Aspects of Graph Covers 2010, Auckland, New Zealand, *Dichotomy for locally injective homomorphism to simple weight graph* February 2010
- Joint Mathematical Conference CSASC 2010, Prague, Czech Republic, *k-in-a-path on claw-free graphs* January 2010
- CanaDAM 2009, Montreal, QC, Canada, *On 3-choosability of triangle-free planar graphs* May 2009
- Cycles and Colourings, Tatranská Štrba, Slovakia, *Shortest cycle cover of graphs with minimum degree three* September 2008
- Cycles and Colourings, Tatranská Štrba, Slovakia, *Packing chromatic number for lattices* September 2007
- Midsummer Combinatorial Workshop, Prague, Czech Republic, *6-critical graphs in the Klein bottle* June–July 2007
- Winter School on Combinatorics, Finse, Norway, *Discharging and list coloring* March 2007

### Seminar talks:

- University of Illinois at Urbana-Champaign, Urbana, IL, USA March 2014
- University of Mississippi, Oxford, MS, USA February 2014
- Illinois State University, Normal, IL, USA January 2014
- Miami University, Oxford, OH, USA December 2013
- University of Illinois at Urbana-Champaign, Urbana, IL, USA December 2013
- University of Illinois at Urbana-Champaign, Urbana, IL, USA September 2013

- University of Szeged, Szeged, Hungary *July 2013*
- Arizona State University, Tempe, AZ, USA *June 2013*
- Simon Fraser University, Vancouver, BC, Canada *May 2013*
- University of Illinois at Chicago, Chicago, IL, USA *April 2013*
- University of Illinois at Urbana-Champaign, Urbana, IL, USA *April 2013*
- Georgia Institute of Technology, Atlanta, GA, USA *March 2013*
- Emory University, Atlanta, GA, USA *March 2013*
- University of Illinois at Urbana-Champaign, Urbana, IL, USA *March 2013*
- Illinois State University, Bloomington-Normal, IL, USA *October 2012*
- University of Illinois at Urbana-Champaign, Urbana, IL, USA *September 2012*
- Charles University, Prague, Czech Republic *January 2012*
- University of Illinois at Urbana-Champaign, Urbana, IL, USA *December 2011*
- University of Illinois at Urbana-Champaign, Urbana, IL, USA *September 2011*
- Mitsubishi Electric Research Laboratories, Cambridge, MA, USA *March 2011*
- Durham University, Durham, United Kingdom *November 2009*
- INRIA, Nice, France *December 2007*
- University of Ljubljana, Ljubljana, Slovenia *May 2007*

## Teaching experience:

*Lecturer (at UIUC, Illinois):*

- MATH 213 - Basic Discrete Mathematics spring 2012
- MATH 413 - Introduction to Combinatorics spring 2012, 2013, 2014(2×)
- MATH 484 - Nonlinear Programming fall 2011, 2012, 2013
- MATH 589 - Nonlinear Programming (graduate course) fall 2012
- MATH 598 - Literature Seminar in Math spring 2012

*Teaching assistant (at Charles University, Prague):*

- Algorithms and Data Structures I spring 2009
- Combinatorics and Graph Theory II fall 2008, 2009
- Combinatorics and Graph Theory III fall 2010
- Discrete mathematics fall 2005
- Linear Algebra I fall 2007, 2008
- Linear Algebra II spring 2008, 2009, 2010
- Mathematical skills fall 2009

*Advised bachelor students (computer science at Charles University, Prague):*

Date corresponds to successful defense.

- D. Škoda, *Monkey Bank Robbers* (multiplayer computer game) September 2011
- J. Navrátil, *Clusters in graphs* (theory and implementation) September 2011
- K. Fišer, *Bombic 2* (arcade computer game) June 2010
- D. Slabý, *Ditchers* (multiplayer computer game) June 2010
- M. Dzetkulič, *Computer opponents for BJS* (theory and implementation) September 2009
- M. Čevora, *KBang* (multiplayer computer game) June 2009
- J. Beneš, *Soccer* (arcade computer game) June 2008