

# Bernard Lidický

## *Curriculum Vitae*

Department of Mathematics  
Iowa State University  
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### Education

PhD. [Charles University in Prague](#), Czech Republic 10/2007–07/2011  
Dissertation: *Graph coloring problems*, advisor J. Fiala

Master's degree, [Charles University in Prague](#), Czech Republic 10/2002–09/2007  
Thesis: *Variants of the coloring problem*, advisor J. 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

### Awarded External Funding

- PI on NSF grant DMS-1600390 (Title: Collaborative Research: Flag Algebra and Its Applications \$80,000) 2016–2019  
(External research grant, to Lidický \$80,000)  
[Awarded together with a separate NSF grant DMS-1600483 to PI F. Pfender \$100,000]
- US PI on Slovenia-US collaboration grant (Slovenian PI R. Škrekovski, €3224) 2017–2019  
(External research grant, to Lidický for local expenses in Slovenia €1612)
- co-PI on NSF grant DMS-1603823 for summer graduate school (PI L. Hogben, \$34,917) 2016–2019  
(Organizing workshop, funds only for students participants, to Lidický \$0)
- co-PI on NSF grant DMS-1266016 (PI A. Kostochka, \$269,919) 2013–2016  
(External research grant, \$48,000 to Lidický/UIUC and \$24,165 to Lidický/ISU)

*State as of July 24, 2017; formatting updated October 30, 2017*

- IMA grant supporting the Excill II conference at UIUC, March 2013, (joint with J. Balogh, A. Kostochka, and D. West, \$4,000) 2013  
(Organizing conference, funds for participants only, to Lidický \$0)
- PI on AMS-Simons Travel Grant (\$4,000) 2012–2013  
(External research grant, to Lidický \$4,000)

### Internal Funding

- Iowa State University - Foreign Travel Grant (\$1,069) 2015  
(Internal grant, to Lidický \$1,069)
- Charles University student research grant (PI, equiv. \$30,000) 2010–2011  
(Internal research grant, to Lidický about \$10,000)

### Pending and declined funding

- ? co-PI on NSF RTG application (PI L. Hogben, \$2,106,816) 2018–2023  
(External student training grant, pending, to Lidický budgeted \$12,000)
- ★ PI on Simons Foundation: Collaboration Grants for Mathematicians.  
Funding awarded but PI declined it in favor of NSF grant. (\$30,000) 2016–2021  
(External research grant, to Lidický would be \$30,000)
- ★ PI on NSA The Young Investigator Grant.  
Funding awarded but PI declined it in favor of NSF grant. (\$19,973) 2017–2019  
(External research grant, to Lidický would be \$19,973)

### Professional Service

- Organizer of Rocky Mountain–Great Plains Graduate Research Workshop in Combinatorics, Ames, IA; Laramie, WY; Denver, CO 2015, 2016, 2017  
(lead organizer M. Ferrara, <http://combinatoricsworkshop.org>)
- Organizer of special session at AMS meeting #1124, Raleigh, NC 2016  
(with S. Hartke)
- Organizer of a contributed minisymposium at SIAM conference on Discrete Math, Atlanta, GA (with M. Young) 2016
- Organizer of special session at AMS meeting #1110, Las Vegas, NV 2015  
(with D. Stolee)
- Organizer of conference Extremal Combinatorics at Illinois 2, Urbana, IL 2013  
(with J. Balogh, A. Kostochka, D. West)
- Organizer of Midsummer Combinatorial Workshop XVII, Prague 2011  
(with J. Kratochvíl, J. Nešetřil)
- Organizer of Spring School of Combinatorics, Czech Republic 2006, 2007  
(with J. Hladký, M. Krčál)

### Institutional Service

- Organizer of Discrete Math seminar, ISU 2016–to date
- Advisory committee at Math department, ISU 2016–2017
- Awards committee at Math department, ISU 2015–2016
- Member of ten doctoral committees, ISU 2015–to date
- Administrator of teaching material repository at Math department, ISU 2015–to date
- External member of one doctoral committee, CU Denver 2016–to date
- Organizer of Graph Theory seminar, UIUC 2012–2014
- Member of six thesis defense committees, UIUC 2012–2014
- Member of nine prelim exam committees, UIUC 2011–2014
- Graduate coordinator for Research Experience for Undergraduates, Rutgers University, USA 2010

### Patents

- US patent 8,938,348 *Method for Optimizing Run Curve of Vehicles*, (joint with D. Nikovski) [\[pdf\]](#) 2015

### Publications

In mathematics, authors are traditionally listed in alphabetical order. See [AMS Culture Statement](#) for more explanation. [\[doi\]](#), [\[pdf\]](#), and [\[arXiv\]](#) are clickable.

#### Papers in refereed journals while at ISU

1. Z. Dvořák, B. Lidický: *Fine structure of 4-critical triangle-free graphs III. General surfaces*. Accepted to SIAM Journal on Discrete Mathematics. [\[arXiv\]](#)
2. I. Choi, J. Ekstein, P. Holub, B. Lidický: *3-coloring triangle-free planar graphs with a precolored 9-cycle*. Accepted to European J. of Combinatorics. [\[pdf\]](#)
  - Also at IWOCA 2014. Lecture Notes in Computer Science **8986** (2015), 98–109. [\[doi\]](#) [\[pdf\]](#)
3. J. Balogh, P. Hu, B. Lidický, F. Pfender, J. Volec, M. Young: *Rainbow triangles in three-colored graphs*, Journal of Comb. Theory B. **126** (2017), 83–113. [\[doi\]](#) [\[pdf\]](#)
4. Z. Dvořák, B. Lidický: *Fine structure of 4-critical triangle-free graphs II. Planar triangle-free graphs with two precolored 4-cycles*, SIAM J. Discrete Math. **31** (2017), 865–874. [\[doi\]](#) [\[pdf\]](#)
5. B. Brimkov, J. Edmond, R. Lazar, B. Lidický, K. Messerschmidt, S. Walker: *Injective choosability of subcubic planar graphs with girth 6*, Discrete Math. **340** (2017), 2538–2549. [\[doi\]](#) [\[pdf\]](#)

6. Z. Berikkyzy, C. Cox, M. Dairyko, K. Hogenson, M. Kumbhat, B. Lidický, K. Messerschmidt, K. Moss, K. Nowak, K. F. Palmowski, D. Stolee: *(4,2)-choosability of planar graphs with forbidden structures*, *Graphs and Combinatorics*, **33** (2017), 751–787. [[doi](#)] [[pdf](#)]
7. E. Gethner, L. Hogben, B. Lidický, F. Pfender, A. Ruiz, M. Young: *Crossing numbers of complete tripartite and balanced complete multipartite graphs*, *J. of Graph Theory*. **84** (2017), 552–565. [[doi](#)] [[pdf](#)]
8. F. Cicalese, B. Keszegh, B. Lidický, D. Palvolgyi, T. Valla: *On the Tree Search Problem with Non-uniform Costs*, *Theoretical Computer Science* **647** (2016), 2232. [[doi](#)] [[pdf](#)]
  - Also at WG 2015. *Lecture Notes in Computer Science* **9224** (2016), 90–102. [[doi](#)] [[pdf](#)]
9. J. Balogh, P. Hu, B. Lidický and F. Pfender: *Maximum density of induced  $C_5$  is achieved by iterated blow-ups*, *European J. of Combinatorics*, **52** (2016), 47–58. [[doi](#)] [[pdf](#)]
10. J. Balogh, M. Delcourt, B. Lidický, C. Palmer: *Rainbow copies of  $C_4$  in edge-colored hypercubes*, *Discrete Applied Math.*, **210** (2016), 35–37. [[doi](#)] [[pdf](#)]

#### **Papers accepted to refereed journals subject to revision (on Jul 24, 2017)**

11. J. Kynčl, B. Lidický, T. Vyskočil: *Irreversible 2-conversion set in graphs of bounded degree*. Accepted to DMTCS (subject to minor revision). [[arXiv](#)] [[journal](#)]  
(published Sep 26, 2017)
12. J. Goldwasser, B. Lidický, R. Martin, D. Offner, J. Talbot, M. Young: *Polychromatic Colorings on the Hypercube*. Accepted to *Journal of Combinatorics* (subject to minor revision). [[arXiv](#)]
13. M. Axenovich, J. Goldwasser, R. Hansen, B. Lidický, R. R. Martin, D. Offner, J. Talbot, M. Young: *Polychromatic colorings of complete graphs with respect to 1,2-factors and Hamiltonian cycles*. Accepted to *Journal of Graph Theory* (subject to minor revision). [[arXiv](#)] [[doi](#)]  
(published Aug 30, 2017)

#### **Papers in refereed conferences while at ISU**

14. Z. Dvořák, B. Lidický: *Independent sets near the lower bound in bounded degree graphs*. At *Symposium on Theoretical Aspects of Computer Science 2017 (STAC)*. *LIPIcs* **66** (2017), 28:1–28:13. [[doi](#)] [[pdf](#)]
  - F. Cicalese, B. Keszegh, B. Lidický, D. Palvolgyi, T. Valla: *On the Tree Search Problem with Non-uniform Costs*, At *International Workshop on Graph-Theoretic Concepts in Computer Science 2015 (IWOC)*. *Lecture Notes in Computer Science* **9224** (2016), 90–102. [[doi](#)] [[pdf](#)]  
*Journal version* [8].

- I. Choi, J. Ekstein, P. Holub, B. Lidický: *3-coloring triangle-free planar graphs with a precolored 9-cycle*. At International Workshop on Combinatorial Algorithms 2014 (WG). Lecture Notes in Computer Science **8986** (2015), 98–109. [\[doi\]](#) [\[pdf\]](#)  
Journal version [\[2\]](#).

#### **Papers submitted to refereed journals (before Jul 24, 2017)**

15. B. Lidický, F. Pfender: *Semidefinite Programming and Ramsey Numbers* (2017). [\[arXiv\]](#)
16. M. Axenovich, J. Goldwasser, B. Lidický, R. R. Martin, D. Offner, J. Talbot, M. Young: *Polychromatic Colorings on the Integers* (2017). [\[arXiv\]](#)
17. M. Dairyko, M. Ferrara, B. Lidický, R. R. Martin, F. Pfender, A. Uzzell: *Ore and Chvátal-type Degree Conditions for Bootstrap Percolation from Small Sets* (2016). [\[arXiv\]](#)
18. Z. Dvořák, B. Lidický: *Fine structure of 4-critical triangle-free graphs I. Planar graphs with two triangles and 3-colorability of chains* (2015). [\[arXiv\]](#)
19. P. DeOrsey J. Diemunsch, M. Ferrara, N. Graber, S. G. Hartke, S. Jahanbekam, B. Lidický, L. Nelsen, D. Stolee, E. Sullivan: *On the Strong Chromatic Index of Sparse Graphs* (2015). [\[arXiv\]](#)

#### **Papers in refereed journals before ISU**

1. Z. Dvořák, B. Lidický, B. Mohar: *5-choosability of graphs with crossings far apart*, Journal of Comb. Theory B **123** (2017), 54–96. [\[doi\]](#)
2. Z. Dvořák, B. Lidický, B. Mohar, L. Postle: *5-list-coloring planar graphs with distant precolored vertices*, Journal of Comb. Theory B **122** (2017), 311–352. [\[doi\]](#)
3. I. Choi, B. Lidický, D. Stolee: *On Choosability with Separation of Planar Graphs with Forbidden Cycles*, J. of Graph Theory, **81** (2016) 283–306. [\[doi\]](#)
4. Z. Dvořák, B. Lidický: *3-coloring triangle-free planar graphs with a precolored 8-cycle*, J. of Graph Theory, **80** (2015), 98–111. [\[doi\]](#)
5. H.A. Kierstead, B. Lidický: *On choosability with separation of planar graphs with lists of different sizes*, Discrete Math. **338** (2015), 1779–1783. [\[doi\]](#)
6. J. Balogh, P. Hu, B. Lidický, O. Pikhurko, B. Udvari, J. Volec: *Minimum number of monotone subsequences of length 4 in permutations*, Combinatorics, Probability and Computing, **24** (2015), 658–679. [\[doi\]](#)
7. J. Balogh, P. Hu, B. Lidický, H. Liu: *Upper bounds on the size of 4- and 6-cycle-free subgraphs of the hypercube*, European J. of Combinatorics, **35** (2014), 75–85. [\[doi\]](#)

8. O.V. Borodin, Z. Dvořák, A.V. Kostochka, B. Lidický, M. Yancey: *Planar 4-critical graphs with four triangles*, European J. of Combinatorics, **41** (2014), 138–151. [[doi](#)]
9. Z. Dvořák, B. Lidický: *4-critical graphs on surfaces without contractible ( $\leq 4$ )-cycles*. SIAM J. Discrete Math., **28** (2014), 521–552. [[doi](#)]
10. O.V. Borodin, A.V. Kostochka, B. Lidický, M. Yancey: *Short proofs of coloring theorems on planar graphs*, European J. of Combinatorics, **36** (2014), 314–321. [[doi](#)]
11. B. Lidický, H. Liu, C. Palmer: *On the Turán number of forests*, Electronic Journal of Combinatorics, **20-2** (2013) P62. [[pdf](#)]
12. S. Har-Peled, B. Lidický: *Peeling the Grid*, SIAM J. Discrete Math. **27** (2013), 650–655. [[doi](#)]
13. V. Jelínek, E. Jelínková, J. Kratochvíl, B. Lidický, M. Tesař, T. Vyskočil: *The Planar Slope Number of Planar Partial 3-Trees of Bounded Degree*, Graphs and Combinatorics **29-4** (2013), 981–1005. [[doi](#)]
  - Also at *Graph Drawing 2009*, Lecture Notes in Computer Science **5849** (2010), 304–314. [[doi](#)]
14. Z. Dvořák, B. Lidický, R. Škrekovski: *Bipartizing fullerenes*, European J. of Combinatorics **33** (2012), 1286–1293. [[doi](#)]
15. P. Golovach, B. Lidický, B. Martin, D. Paulusma: *Finding vertex-surjective graph homomorphisms*, Acta Informatica **49** (2012), 381–394.
  - Also at *CSR 2012*, Lecture Notes in Computer Science **7353** (2012), 160–171.
16. J. Ekstein, P. Holub, B. Lidický: *Packing Chromatic Number of Distance Graphs*, Discrete Applied Math. **160** (2012), 518–524. [[doi](#)]
17. J. Fiala, P. Golovach, J. Kratochvíl, B. Lidický, D. Paulusma: *Distance Three Labelings of Trees*, Discrete Applied Math. **160** (2012), 764–779. [[doi](#)]
  - Also contains: P. Golovach, B. Lidický, D. Paulusma:  *$L(2,1,1)$ -labeling is NP-complete for trees*, (TAMC 2010), Lecture Notes in Computer Science **6108** (2010), 211–221. [[doi](#)]
18. J. Fiala, M. Kamiński, B. Lidický, D. Paulusma: *The  $k$ -in-a-path problem for claw-free graphs*, Algorithmica **62** (2012), 499–519. [[doi](#)]
  - Also at *STACS 2010*, Proceedings of the 27th International Symposium on Theoretical Aspects of Computer Science, LIPIcs **5** (2010), 371–382. [[doi](#)]
19. Z. Dvořák, B. Lidický, R. Škrekovski: *Graphs with two crossings are 5-choosable*, SIAM Journal on Discrete Mathematics **25** (2011), 1746–1753. [[doi](#)]
20. Z. Dvořák, B. Lidický, R. Škrekovski: *Randić index and the diameter of a graph*, European Journal of Combinatorics **32** (2011), 434–442. [[doi](#)]

21. R. Erman, F. Havet, B. Lidický, O. Pangrác: *5-colouring graphs with 4 crossings*, SIAM Journal on Discrete Mathematics **25** (2011), 401–422. [doi]
22. Z. Dvořák, B. Lidický, R. Škrekovski: *3-choosability of triangle-free planar graphs with constraint on 4-cycles*, SIAM Journal on Discrete Mathematics **24** (2010), 934–945. [doi]
23. T. Kaiser, D. Král, B. Lidický, P. Nejedlý, R. Šámal: *Short cycle covers of graphs with minimum degree three*, SIAM Journal on Discrete Mathematics **24** (2010), 330–355. [doi]
24. Z. Dvořák, B. Lidický, R. Škrekovski: *On 3-choosability of plane graphs without 3-, 7- and 8-cycles*, Discrete Mathematics **309** (2009), 5899–5904. [doi]
25. K. Kawarabayashi, D. Král, J. Kynčl, B. Lidický: *6-critical graphs on the Klein bottle*, SIAM Journal on Discrete Mathematics **23** (2009), 372–383. [doi]
26. B. Lidický: *On 3-choosability of plane graphs having no 3-, 6-, 7- and 8-cycles*, Australasian Journal of Combinatorics **44** (2009), 77–86. [pdf]
27. J. Fiala, S. Klavžar, B. Lidický: *The packing chromatic number of infinite product graphs*, European Journal of Combinatorics **30** (2009), 1101–1113. [doi]

**Papers in refereed conference proceedings (no journal version):**

28. D. Nikovski, B. Lidický, W. Zhang, K. Kataoka, K. Yoshimoto: *Markov decision processes for train run curve optimization*, IEEE ESARS 2012 (Electrical System for Aircraft, Railway and Ship Propulsion). [doi]
29. O. Bílka, B. Lidický, M. Tesař: *Locally injective homomorphism to the simple Weight graphs*, (TAMC 2011), Lecture Notes in Computer Science **6648** (2011), 471–482. [doi]
30. B. Lidický, M. Tesař: *Complexity of locally injective homomorphism to the Theta graphs*, (IWOCA 2010), Lecture Notes in Computer Science **6460** (2010), 326–336. [doi]
31. A. Maitos, F. Jordán, B. Lidický, K. Kabele, P. Strachan: *Coupling building simulation with a hardware real-time controller*, Simulace budov a techniky prostředí 2010 (Simulations of buildings, technology and environment), ČVUT (2010), 115–120. [pdf]
32. V. Jelínek, E. Jelínková, J. Kratochvíl, B. Lidický: *Clustered Planarity: Embedded Clustered Graphs with Two-Component Clusters*, (Graph Drawing 2008), Lecture Notes in Computer Science **5417** (2009), 121–132. [doi]

**Other unrefereed manuscripts**

- J. Ekstein, J. Fiala, P. Holub, B. Lidický: *The packing chromatic number of the square lattice is at least 12*. Available at <https://arxiv.org/abs/1003.2291> (2010).



- P. Kolman, B. Lidický, J.-S. Sereni: *Fair Edge Deletion Problems on Tree-Decomposable Graphs and Improper Colorings*, available as ITI report 333 (2010). [[pdf](#)]
- N. Chenette, L. Postle, N. Streib, R. Thomas, C. Yerger, K. Kawarabayashi, D. Král, J. Kynčl, B. Lidický: *Six-Critical Graphs on the Klein Bottle* (Topological and Geometric Graph Theory 2008), *Electronic Notes in Discrete Mathematics* **31** (2008), 235–240. [[doi](#)]

### Invited Plenary Talks

- Cycles and Colourings, Nový Smokovec, Slovakia, *3-coloring triangle-free planar graphs*  
September 2016
- Czech-Slovak Graph Theory Conference, Boží Dar, Czech Republic, *Flag algebra and some applications*  
June 2015

### Significant Invited Conference Talks

1. Extremal Combinatorics at Illinois 3, Chicago, IL, USA, *Decomposing Random  $d$ -regular Graphs Into Stars*  
August 2016
  2. Atlanta Lecture Series, Atlanta, GA, USA, *Upper bounds on small Ramsey numbers*  
February 2015
- ↓ Before ISU Appointment \_\_\_\_\_
3. 1<sup>st</sup> Lake Michigan Workshop on Combinatorics and Graph Theory, Kalamazoo, MI, USA, *Monotone subsequences in permutations*  
March 2014
  4. Atlanta Lecture Series, Atlanta, GA, USA, *Number of monotone subsequences of length four in permutations*  
January 2014

### Invited Conference Talks

1. Mostly Manitoba, Michigan, and Minnesota Combinatorics Graduate Student Workshop, Duluth, MN, USA, *Small Ramsey Numbers*  
April 2017
2. AMS meeting #1127, Bloomington, IN, USA, *Independent sets near the lower bound in bounded degree graphs*  
April 2017
3. AMS meeting #1123, Minneapolis, MN, USA, *Independent sets near the lower bound in bounded degree graphs*  
October 2016
4. AMS meeting #1122, Denver, CO, USA, *Decomposing Random  $d$ -regular Graphs Into Stars*  
October 2016
5. SIAM conference on Discrete Mathematics '16, Atlanta, GA, USA, *Precoloring extension for planar graphs*  
June 2016
6. Canadian Math. Society winter meeting 2015, Montreal, QC, Canada, *Inducibility of Short Cycles*  
December 2015



7. AMS meeting #1112, Chicago, IL, USA, *Precoloring extension for planar graphs* October 2015
  8. AMS meeting #1108, East Lansing, MI, USA, *Using flag algebras on small Ramsey numbers* March 2015
  9. AMS meeting #1102, Eau Claire, WI, USA, *Rainbow triangles in 3-edge-colored graphs* September 2014
- ↓ Before ISU Appointment \_\_\_\_\_
10. SUMMIT 190, Szeged, Hungary, *Flag Algebras and Iterated Blow-ups* July 2014
  11. SIAM conference on Discrete Mathematics '14, Minneapolis, MN, USA, *Rainbow triangles in 3-edge-colored graphs* June 2014
  12. AMS national meeting, Baltimore, MD, USA, *Use of flag algebras with permutations* January 2014
  13. AMS meeting #1092, Louisville, KY, USA, *3-coloring triangle-free planar graphs with a precolored 8-cycle* October 2013
  14. AMS meeting #1089, Boulder, CO, USA, *Short proofs of coloring theorems on planar graphs* April 2013
  15. AMS meeting #1087, Oxford, MS, USA, *Short proofs of coloring theorems on planar graphs* March 2013
  16. SIAM conference on Discrete Mathematics '12, Halifax, NS, Canada, *4-critical graphs on surfaces without contractible cycles of length at most 4* June 2012
  17. SIAM conference on Discrete Mathematics '12, Halifax, NS, Canada,  *$L(2,1,1)$ -labeling is NP-complete for trees* June 2012
  18. AMS meeting #1080, Washington DC, USA, *Upper bounds on the size of 4- and 6-cycle-free subgraphs of the hypercube* March 2012
  19. 7<sup>th</sup> Slovenian International Conference on Graph Theory, Bled, Slovenia, *Packing Coloring and Grids* June 2011

### Contributed Talks

1. 47th Southeastern International Conference on Combinatorics, Graph Theory & Computing, Boca Raton, FL, USA, *Inducibility of Short Cycles* March 2016
  2. 25th International Workshop on Combinatorial Algorithms, Duluth, MN, USA, *3-coloring triangle-free planar graphs with a precolored 9-cycle* October 2014
- ↓ Before ISU Appointment \_\_\_\_\_
3. 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
  4. 7<sup>th</sup> Symposium on Graph Theory, Combinatorics, Algorithms and Applications, Košice, Slovakia, *4-critical planar graphs with four triangles* July 2013

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

### Colloquia Talks

1. University of Minnesota, Duluth, MN, USA, *Triangles and 3-coloring of Planar Graphs* February 2016
2. Michigan Technological University, Houghton, MI, USA, *Flag Algebras and Applications to Permutations* November 2014
- ↓ Before ISU Appointment \_\_\_\_\_
3. Miami University, Oxford, OH, USA, *Flag algebras and its applications* December 2013

### Seminar Talks

1. Charles University, Prague, Czech Republic June 2017
2. KAIST, Daejeon, South Korea March 2017
3. Charles University, Prague, Czech Republic September 2016

4. University of Colorado Denver, Denver, CO, USA *April 2016*
5. University of Colorado Denver, Denver, CO, USA *July 2015*
6. University of Waterloo, Waterloo, Canada *June 2015*
7. University of West Bohemia, Pilsen, Czech Republic *May 2015*
8. University of Illinois at Urbana-Champaign, Urbana, IL, USA *March 2015*

↓ Before ISU Appointment \_\_\_\_\_

9. University of Colorado Denver, Denver, CO, USA *March 2014*
10. Miami University, Oxford, OH, USA *December 2013*
11. University of Szeged, Szeged, Hungary *July 2013*
12. Arizona State University, Tempe, AZ, USA *June 2013*
13. Simon Fraser University, Vancouver, BC, Canada *May 2013*
14. University of Illinois at Chicago, Chicago, IL, USA *April 2013*
15. Georgia Institute of Technology, Atlanta, GA, USA *March 2013*
16. Emory University, Atlanta, GA, USA *March 2013*
17. Illinois State University, Bloomington-Normal, IL, USA *October 2012*
18. Charles University, Prague, Czech Republic *January 2012*
19. Mitsubishi Electric Research Laboratories, Cambridge, MA, USA *March 2011*
20. Durham University, Durham, United Kingdom *November 2009*
21. INRIA, Nice, France *December 2007*
22. University of Ljubljana, Ljubljana, Slovenia *May 2007*

### Internal Seminar Talks

- Iowa State University 3×
- University of Illinois at Urbana-Champaign 8×

### Online Publication Databases Indexing My Work

- Scopus <https://www.scopus.com/authid/detail.uri?authorId=24485259200>
- MathSciNet <http://www.ams.org/mathscinet/search/author.html?mrauthid=862395>
- GoogleScholar <https://scholar.google.com/citations?user=RDvF21UAAAAJ>
- ORCID <https://orcid.org/0000-0001-8612-3594>

## Teaching Experience

*Instructor (at ISU, Iowa):*

- *MATH 165 - Calculus 1* *fall 2016*
- *MATH 201 - Introduction to Proofs* *spring 2015(2×)*
- *MATH 304 - Combinatorics* *fall 2015*
- *MATH 314 - Graph Theory* *spring 2016*
- *MATH 492 - Undergraduate Seminar* *fall 2016*
- *MATH 566 - Discrete Optimization (graduate course)* *fall 2015, 2016*

*Instructor (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 (graduate course)* *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 graduate students (at ISU, Iowa):*

- *Kevin Moss PhD* coadvised with S. Butler *Spring 2017*
- *Neha Bora MS* *Summer 2017*
- *Kacy Messerschmidt PhD* *expected Spring 2018*

*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*

## Activities at ISU

### Refereeing

#### *Papers for Journals*

- 2017: Discrete Applied Math., Combinatorica, Graphs and Combinatorics
- 2016: Discrete Math. (2), Electron. J. Combin., Graphs and Combinatorics, J. Combin. Theory Ser. B, SIAM J. Discrete Math. (3)
- 2015: Discrete Appl. Math., Discrete Math. (2), SIAM J. Discrete Math.
- 2014: Electron. J. Combin., European J. Combin., J. Graph Theory, J. Combin. Theory Ser. B

#### *Papers for Conferences*

- WG 2015, Graph Drawing 2016, SOCG 2017

### Program of Study Committees

#### *Ph.D. (co)-advisor:*

- Kacy Messerschmidt *expected 2018*
- Kevin Moss (joint with Steve Butler) 2017

#### *Master's advisor:*

- Neha Bora 2017

#### *Member, not a major professor, Ph.D.:*

1. Alex Schulte *expected 2019*
2. Chassidy Bozeman *expected 2019*
3. Emelie Curl *expected 2019*
4. Derek Young *expected 2019*
5. Michael Dairyko *expected 2018*
6. Shanise Walker *expected 2018*
7. Robert Lazar *expected 2017*
8. Kristin Heysse (Major Prof.: Steve Butler) 2017
9. Lin Chin-Hung (Jephian) (Major Prof.: Leslie Hogben, Steve Butler) 2017
10. Eric Sullivan (CU Denver) *expected 2019*

#### *Member, not a major professor, Master's:*

- Nicholas Sellers (Applied Mathematics, Major Prof.: Ananda Weerasinghe) 2017
- Alex Schulte (Mathematics, Major Prof.: Michael Young) 2015

**First-year Faculty Mentor to Graduate Students**

- Kyle Murphy 2017–2018
- Adam Blumenthal, Kate Lorenzen 2016–2017
- Michael S. Ross 2015–2016

**Preparing Future Faculty Mentor**

CELT<sup>1</sup> sponsored program

- Emelie Curl 2017–2018

**Long Term Visit**

- Discrete Structures: Analysis and Applications, Thematic Program at Institute for Mathematics and its Applications, Minneapolis, MN *Sep–Dec 2014*  
(included office space, lodging, and per-diem support)

**Participation at Workshops**

- Graduate Research Workshop in Combinatorics, Denver, CO, USA *Jul 2017*
- New Trends in Graph Coloring, Banff International Research Station, Banff, AB, Canada *Oct 2016*
- Graduate Research Workshop in Combinatorics, Laramie, WY, USA *Jul 2016*
- Polychromatic Colorings of the Hypercube: Followup workshop, Ames, IA, USA *Sep 2015*
- Graduate Research Workshop in Combinatorics, Ames, IA, USA *Jun 2015*

**Invited Visitors to ISU**

Lidický invited, organized trip, hosted during the visit. Visitors presented at a seminar or the colloquium; \* are visitors who stayed longer (1-3 weeks) and conducted research at ISU.

- \* Zdeněk Dvořák, Charles University *May 2017*
- \* Jan Volec, McGill University, Montreal *Apr 2017*
- Cory Palmer, University of Montana *Mar 2017*
- Andrew Suk (colloquium), University of Illinois, Chicago *Feb 2017*
- Matthew Yancey, Institute for Defense Analyses *Feb 2017*
- Andrew Uzzell, University of Nebraska-Lincoln *Nov 2016*
- Adam Wagner, University of Illinois at Urbana-Champaign *Nov 2016*
- Jan Foniok Manchester Metropolitan University *Aug 2016*

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<sup>1</sup>ISU Center for Excellence in Learning and Teaching

★ Taísa Martins, University of Warwick	<i>Jun 2016</i>
★ Ping Hu, University of Warwick	<i>Jun 2016</i>
★ Jan Volec, ETH Zurich	<i>Jun 2016</i>
★ Ilkyoo Choi, KAIST	<i>Jun 2016</i>
★ Luke Postle, University of Waterloo	<i>Apr 2016</i>
★ Michelle Delcourt, University of Illinois at Urbana-Champaign	<i>Apr 2016</i>
● Šarka Petříčková, University of Illinois at Urbana-Champaign	<i>Apr 2016</i>
★ Zdeněk Dvořák, Charles University	<i>Feb 2016</i>
★ Florian Pfender, University of Colorado, Denver	<i>Jan 2016</i>
● Jan Hubička, University of Calgary	<i>Oct 2015</i>
★ Ilkyoo Choi, KAIST	<i>Aug 2015</i>
★ Jan Volec, ETH Zurich	<i>Aug 2015</i>
● Oleg Pikhurko (colloquium), University of Warwick	<i>Apr 2015</i>
★ Daniel Král (colloquium), University of Warwick	<i>Apr 2015</i>
● Hong Liu, University of Illinois at Urbana-Champaign	<i>Mar 2015</i>
● Maryam Sharifzadeh, University of Illinois at Urbana-Champaign	<i>Mar 2015</i>
★ Zdeněk Dvořák (colloquium), Charles University	<i>Feb 2015</i>

### Teaching and Evaluations

Sem.	Course #	Course Title	Enrolled	Responses	Instructor	Mean	Course	Mean
F 2016	Math 566	Discrete Optimization	7	71.43%	4.80	4.64	5.00	4.58
F 2016	Math 492	Undergraduate Seminar	19	42.11%	4.38	4.42	4.25	4.04
F 2016	Math 165	Calculus I	160	85.00%	3.93	4.00	3.68	3.77
S 2016	Math 314	Graph Theory	24	58.33%	4.50	4.40	4.43	4.04
F 2015	Math 566	Discrete Optimization	19	63.16%	4.25	4.64	3.67	4.58
F 2015	Math 304	Combinatorics	21	71.43%	4.53	4.54	4.13	4.31
S 2015	Math 201	Introduction to Proofs	19	52.63%	3.70	4.06	3.50	3.78
S 2015	Math 201	Introduction to Proofs	25	56.00%	4.29	4.06	3.71	3.78

Evaluation range is from 1.00 (worst) to 5.00 (best).

Means are for comparable courses and correspond to the column on their left; data provided by ISU Mathematics Department.

Details available at <http://orion.math.iastate.edu/lidicky/oldteaching>.

### Outreach

- assisting Kris Lee and Steve Butler during 4-H Youth Conference *July 2015*
- volunteering for Math League Competition at ISU lead by Elgin Johnston *Feb 2017*