Curriculum Vitae
PIOTR FALISZEWSKI
December 21st, 2010

Office Address:
AGH University of Science and Technology
Katedra Informatyki
30-059 Kraków
(+48) 12 617-34-96
faliszew@agh.edu.pl

Home Address:
ul. Aleksandry 25/11
30-837 Kraków
(+48) 510-295-166

RESEARCH AREAS

Computational social choice; preference aggregation; complexity of elections; cooperative game theory; algorithms and complexity, approximation algorithms. I am particularly interested in ideas, concepts, and research spanning and linking all these areas.

PERSONAL

Polish Citizen; Born 11/07/1980 in Kraków, Poland; single.

REFERENCES

Available upon request.

EDUCATION

- **University of Rochester**
  Ph.D. in Computer Science, 2004–2008, advisor: Professor Lane A. Hemaspaandra
  Thesis title: Manipulation of Elections: Algorithms and Infeasibility Results
  M.S. in Computer Science, 2004–2006.

- **AGH University of Science and Technology**, Kraków, Poland
  5-year B.S./M.S. in Computer Science, 1999–2004.

ACADEMIC EXPERIENCE

- **AGH University of Science and Technology**, Kraków, Poland
  Assistant Professor at the Department of Computer Science, 1/1/2009–present.

- **Rochester Institute of Technology**, Rochester, NY 14623, USA
  Adjunct at the Department of Computer Science, 6/2005–8/2005, 6/2006–8/2006, 6/2007–8/2007, 6/2008–8/2008.

- **University of Rochester**, Rochester, NY 14627, USA
  Teaching Assistant at the Department of Computer Science, 1/2005–5/2005, 9/2005–12/2005, 1/2006–5/2006, and 9/2006–12/2006.

- **AGH University of Science and Technology**, Kraków, Poland
  Teaching Assistant at the Department of Computer Science, 10/2003–8/2004.
  Research Assistant at the Department of Computer Science, 10/2003–8/2004.

- **ACC Cyfronet**
  Student Internship; worked on the CrossGrid Project, Summer 2002.
- **Technion Israel Institute of Technology**
  Took part in the SciTech '97 Student Research program, Summer 1997.

ACADEMIC SERVICE

- Program Committee member: IJCAI-2011 Workshop on Social Choice and Artificial Intelligence, Twenty-Fifth AAAI Conference on Artificial Intelligence (AAAI-2011), Tenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2011), Twenty-Fourth AAAI Conference on Artificial Intelligence (AAAI-2010), Ninth International Conference on Autonomous Agents and Multiagent Systems (AAMAS-2010), Third International Workshop on Computational Social Choice (COMSOC-2010), First Workshop on Cooperative Games in Multiagent Systems (CoopMAS-2010).
- Invited talks/tutorials: Parallel Problem Solving from Nature (PPSN-2010), Logic, Games, and Social Choice (LGS-2010).
- Guest handling editor: *Computing and Informatics.*
- Referee for journals: *Information and Computation, Theoretical Computer Science, Theory of Computing Systems, Information Processing Letters, Journal of Artificial Intelligence Research, Artificial Intelligence, Journal of Autonomous Agents and Multiagent Systems, Mathematical Social Sciences, Mathematical Logic Quarterly, Electronic Commerce Research and Applications, Computing and Informatics, International Journal of Foundations of Computer Science.*
- Referee for conferences: IJCAI-11, WINE-10, IPEC-10, MFCS-10, MFCS-09, IJCAI-09, AAMAS-09, AAAI-08, ICALP 08, AAMAS-08, AAAI-07, STACS-07, ICALP-06, ACM-EC-06, MFCS-06, MFCS-05.
- Referee for workshops: COMSOC-08, NESCAI-08.

HONORS

- Nominated by the Department of Computer Science of the University of Rochester for a Outstanding Dissertation Award.
- Nominated for the University of Rochester's Edward Peck Curtis Award for Excellence in Teaching by Graduate Students (2007).
- AGH University of Science and Technology Rector's Award (2001).
- Member of the AGH University of Science and Technology team at the ACM Central European Programming Contest 2001 (ranked 19/60), and at the Polish Academic Programming Contest 2001 (ranked 18/45).
- Best presentation at SciTech'97 in the area of engineering (1997).

FUNDING

- Recipient of the Foundation for Polish Science's Powroty/Homing research award (two years, starting in the Fall 2009).
- Primary investigator on the Polish Ministry of Science and Higher Education Research grant N-N206-378637 (two years, starting in the Fall 2009).

DEPARTMENTAL SERVICE

- Lab teacher for a computer science course for students from the 2nd Liceum Ogólnokształcące w Krakowie (one of top highschools in Kraków). Course coorganized by AGH's Department of Computer Science and the highschool (Fall 2009, Spring 2010).

- Co-responsible for AGH University of Science and Technology's programming contest team of undergraduate and graduate students (Spring 2009–).

- Curriculum Committee, Department of Computer Science, University of Rochester, Fall 2008: My responsibilities include discussions on enriching department's undergraduate course offering and making it more attractive to a more diverse set of students, discussions and preparation of a report on upper-level writing requirements.

- Curriculum Committee, Department of Computer Science, University of Rochester, Fall 2007/Spring 2008: My responsibilities include discussions regarding the departments curriculum, in particular focusing on enchancing the B.S./M.S. program.

- Admissions Committee, Department of Computer Science, University of Rochester, Spring 2006: I was responsible for reviewing the prospective Ph.D. students' applications, interviewing the students, and discussing the applications within the committee.

- Comprehensive Exam Committee, Department of Computer Science, University of Rochester, Spring 2007: I was responsible for reviewing the problems on the department's comprehensive exam (every Ph.D. student at the CS department at the University of Rochester takes this exam, typically after his or her first year).

- Theory-Meet coorganizer, Department of Computer Science, University of Rochester, Spring 2005–Spring 2008: I have coorganized a series of grad-student talks regarding theoretical computer science. The talks are happening weekly, every Friday.

- Organizing Committee Member, Third Western New York Theory Day (2008).

COURSES TAUGHT

- Combinatorial Computing (MATHS-326), University of Auckland, New Zealand. Coinstructor (200 minutes a week, 4 weeks). Spring 2010.

- Theory of Computation and Computational Complexity I, AGH University of Science and Technology. Instructor, completely responsible for the course (90 minutes a week). Fall 2009, Fall 2010.

- Theory of Computation and Computational Complexity II, AGH University of Science and Technology. Instructor, completely responsible for the course (90 minutes a week). Spring 2010.

- Algorithms and Data Structures, AGH University of Science and Technology. Instructor, compulsory recitation sessions (Spring 2009, Spring 2010; 90 minutes a week, 15 weeks).

- Introduction to Computer Science Theory, Rochester Institute of Technology. Instructor, completely responsible for the course (Summer 2008, 240 minutes a week, 10 weeks).

- Cryptography 1, Rochester Institute of Technology. Instructor, completely responsible for the course (Summer 2008, 240 minutes a week, 10 weeks), (Summer 2007, 240 minutes a week, 10 weeks).

- Programming Language Concepts, Rochester Institute of Technology. Instructor, completely responsible for the course (Summer 2007, 240 minutes a week, 10 weeks).

- Computer Networks and Data Communication 1, Rochester Institute of Technology. Instructor, completely responsible for the course (Summer 2007, 480 minutes a week, 5 weeks), (Summer 2006, 240 minutes a week, 10 weeks), (Summer 2005, 480 minutes a week, 5 weeks).

- Computational Complexity, University of Rochester. Teaching Assistant. Fall 2006, Fall 2005.

- Operating Systems 1, Rochester Institute of Technology. Instructor, completely responsible for the course (Summer 2006, 240 minutes a week, 10 weeks), (Summer 2005, 480 minutes a week, 5 weeks).

- Computer Models & Limitations, University of Rochester. Teaching Assistant and Recitation Leader (75 minutes a week). Spring 2006, Spring 2005.

- Theory of Computation, AGH University of Technology. Instructor, completely responsible for the course. Spring 2004.

- Theory of Computation and Computational Complexity I, AGH University of Science and Technology. Recitation Leader (90 minutes a week). Spring 2004.

- Theory of Computation and Computational Complexity II, AGH University of Science and Technology. Teaching Assistant. Fall 2003.

- Symbolic Programming II, AGH University of Science and Technology. Recitation Leader (Spring 2009, 90 minutes a week), (Fall 2003, 90 minutes a week).

INDUSTRIAL EXPERIENCE

- Worked for three months for **AC&C HSH Group** (Kraków, Poland). Responsibilities included, but were not limited to, maintaining and extending company's PDF library.

- Programming languages: C, C++, Python, Java, Pascal, Icon, Lisp, x86 assembly language, and Smalltalk.

LIST OF PUBLICATIONS

REFEREED JOURNAL PUBLICATIONS

1. **The Shield that Never Was: Societies with Single-Peaked Preferences are More Open to Manipulation and Control**, P. Faliszewski, E. Hemaspaandra, L.A. Hemaspaandra, and J. Rothe, *Information and Computation*, Vol. 209, #2, pp. 89–107, 2011.

2. **Multimode Control Attacks on Elections**, P. Faliszewski, E. Hemaspaandra, and L.A. Hemaspaandra, Journal of AI Research, accepted with minor revision.

3. **AI's War on Manipulation: Are We Winning?**, P. Faliszewski and A. Procaccia, Invited to *AI Magazine* special issue on algorithmic game theory, 2010.

4. **Using Complexity to Protect Elections**, P. Faliszewski, E. Hemaspaandra, and L. Hemaspaandra, *Communications of the ACM*, Vol. 53, #11, pp. 74–82, 2010.

5. **On the Autoreducibility of Functions**, P. Faliszewski and M. Ogihara, *Theory of Computing Systems*, Vol. 46, #2, pp. 222–245, 2010.

6. **Llull and Copeland Voting Computationally Resist Bribery and Constructive Control**, P. Faliszewski, E. Hemaspaandra, L. Hemaspaandra, and J. Rothe, *Journal of AI Research*, Vol. 35, pp. 275–341, 2009.

7. **How Hard is Bribery in Elections?**, P. Faliszewski, E. Hemaspaandra, and L. Hemaspaandra, *Journal of AI Research*, Vol. 35, pp. 485–532, 2009.

8. **The Complexity of Power-Index Comparison**, P. Faliszewski and L. Hemaspaandra, *Theoretical Computer Science*, Vol. 410, #1, pp. 101–107, 2009.

9. **The Consequences of Eliminating NP Solutions**, P. Faliszewski and L. Hemaspaandra, *Computer Science Review*, Vol. 2, #1, pp. 40–54, 2008.

10. **Properties of Uniformly Hard Languages**, P. Faliszewski and J. Jarosz, *Information Processing Letters*, Vol. 95, #1, pp. 329–332, 2005.

11. **Advice for Semifeasible Sets and the Complexity-Theoretic Cost(lessness) of Algebraic Properties**, P. Faliszewski and L. Hemaspaandra, *International Journal of Foundations of Computer Science*, Vol. 16, #5, pp. 913–928, 2005.

ADDITIONAL JOURNAL PUBLICATIONS

12. **Open Questions in the Theory of Semifeasible Computation**, P. Faliszewski and L. Hemaspaandra, SIGACT News 37(1), pp. 47–65, March 2006.

BOOK CHAPTERS

13. **A Richer Understanding of the Complexity of Election Systems**, P. Faliszewski, E, Hemaspaandra, L. Hemaspaandra, and J. Rothe, in *Fundamental Problems in Computing: Essays in Honor of Professor Daniel J. Rosenkrantz*, eds. S. Ravi and S. Shukla, pp. 375–406, Springer, 2009.

CONFERENCE PAPERS

14. **Homogeneity and Monotonicity of Distance-Rationalizable Voting Rules**, E. Elkind, P. Faliszewski, and A. Slinko, In Proceedings of the Tenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS-11), accepted.

15. **Approximation Algorithms for Campaign Management**, E. Elkind, P. Faliszewski, In Proceedings of the Sixth Workshop on Internet and Network Economics (WINE-10), to appear.

16. **Good Rationalizations of Voting Rules**, E. Elkind, P. Faliszewski, A. Slinko, In Proceedings of the Twenty-Fourth AAAI Conference on Artificial Intelligence (AAAI-10), pp. 774–779, July 2010.

17. **Cloning in Elections**, E. Elkind, P. Faliszewski, A. Slinko, In Proceedings of the Twenty-Fourth AAAI Conference on Artificial Intelligence (AAAI-10), pp. 768–773, July 2010.

18. **Probabilistic Possible Winner Determination**, N. Betzler, Y. Bachrach, P. Faliszewski, In Proceedings of the Twenty-Fourth AAAI Conference on Artificial Intelligence (AAAI-10), pp. 697–702, July 2010.

19. **Manipulation of Copeland Elections**, P. Faliszewski, E. Hemaspaandra, and H. Schnoor, In Proceedings of the Ninth International Conference on Autonomous Agents and Multiagent Systems (AAMAS-10), pp. 367–374, May 2010.

20. **On the Role of Distances in Defining Voting Rules**, E. Elkind, P. Faliszewski, and A. Slinko, In Proceedings of the Ninth International Conference on Autonomous Agents and Multiagent Systems (AAMAS-10), pp. 375–382, May 2010.

21. **Swap Bribery**, E. Elkind, P. Faliszewski, and A. Slinko, In Proceedings of the Second International Symposium on Algorithmic Game Theory (SAGT-09), pp. 299–310, October 2009.

22. **The Shield that Never Was: Societies with Single-Peaked Preferences are More Open to Manipulation and Control**, P. Faliszewski, E. Hemaspaandra, L.A. Hemaspaandra, and J. Rothe, In Proceedings of the Twelfth Conference on Theoretical Aspects of Rationality and Knowledge (TARK-09), pp. 118–127, July 2009.

23. **On Distance Rationalizability of Some Voting Rules**, E. Elkind, P. Faliszewski, and A. Slinko, In Proceedings of the Twelfth Conference on Theoretical Aspects of Rationality and Knowledge (TARK-09), pp. 108–117, July 2009.

24. **Multimode Control Attacks on Elections**, P. Faliszewski, E. Hemaspaandra, and L.A. Hemaspaandra, In Proceedings of the Twenty-First International International Joint Conference on Artificial Intelligence (IJCAI-09), pp. 128–133, July 2009.

25. **Boolean Combinations of Weighted Voting Games**, P. Faliszewski, E. Elkind, and M. Wooldridge, In Proceedings of the Eighth International Conference on Autonomous Agents and Multiagent Systems (AAMAS-09), pp. 185–192, May 2009.

26. **Approximability of Manipulating Elections**, E. Brelsford, P. Faliszewski, E. Hemaspaadnra, I. Schnoor, and H. Schnoor, In Proceedings of the Twenty-Third AAAI Conference on Artificial Intelligence (AAAI-08), pp. 44–49, July 2008.

27. **Manipulating Quota in Weighted Voting Games**, M. Zuckerman, P. Faliszewski, Y. Bachrach, E. Elkind, Twenty-Third AAAI Conference on Artificial Intelligence (AAAI-08), pp. 215–220, July 2008.

28. **The Complexity of Power-Index Comparison**, P. Faliszewski and L. Hemaspaandra, In Proceedings of the Fourth International Conference on Algorithmic Aspects in Information and Management (AAIM-08), pp. 177–187, June, 2008.

29. **Copeland Voting Fully Resists Constructive Control**, P. Faliszewski, E. Hemaspaandra, L. Hemaspaandra, and J. Rothe, In Proceedings of the Fourth International Conference on Algorithmic Aspects in Information and Management (AAIM-08), pp. 165–176, June, 2008.

30. **Copeland Voting: Ties Matter**, P. Faliszewski, E. Hemaspaandra, and H. Schnoor, In Proceedings of the Seventh International Conference on Autonomous Agents and Multiagent Systems (AAMAS-08), pp. 983–990, May, 2008.

31. **Nonuniform Bribery (Short Paper)**, P. Faliszewski, In Proceedings of the Seventh International Conference on Autonomous Agents and Multiagent Systems (AAMAS-08), pp. 1569–1572, May, 2008.

32. **Llull and Copeland Voting Broadly Resist Bribery and Control**, P. Faliszewski, E. Hemaspaandra, L. Hemaspaandra, and J. Rothe, In Proceedings of the Twenty-Second AAAI Conference on Artificial Intelligence (AAAI-07), pp. 724–730, July 2007.

33. **The Complexity of Bribery in Elections**, P. Faliszewski, E. Hemaspaandra, and L. Hemaspaandra, In Proceedings of the Twenty-First National Conference on Artificial Intelligence (AAAI-06), pp. 641–646, July 2006.

34. **Separating the Notions of Self- and Autoreducibility**, P. Faliszewski and M. Ogihara, In Proceedings of the Thirtieth International Symposium on Mathematical Foundations of Computer Science (MFCS 05), pp. 308–315, August/September 2005.

PH.D. THESIS

35. **Manipulation of Elections: Algorithms and Infeasibility Results**, Ph.D. Thesis, University of Rochester, Rochester, NY 14627, USA, November 2008.

M.S. THESIS

36. **The Structure of the Class NP**, M.S. Thesis, AGH University of Science and Technology, Kraków, Poland, June 2004.

TECHNICAL REPORTS AND WORKSHOP PAPERS

37. **Homogeneity and Monotonicity of Distance-Rationalizable Voting Rules**, E. Elkind, P. Faliszewski, A. Slinko, Technical Report, October 2010.

38. **Rationalizations of Condorcet-Consistent Rules via Distances of Hamming Type**, E. Elkind, P. Faliszewski, A. Slinko, ACM Computing Research Repository Technical Report arXiv:1009.0300v1, September 2010.

39. **Multimode Control Attacks on Elections**, P. Faliszewski, E. Hemaspaandra, L.A. Hemaspaandra, University of Rochester Department of Computer Science Technical Report 960, July 2010. (Also appears as ACM Computing Research Repository Technical Report arXiv: arXiv:1007.1800v1)

40. **Distance Rationalization of Voting Rules**, E. Elkind, P. Faliszewski, A. Slinko, COMSOC-2010.

41. **Cloning in Elections**, E. Elkind, P. Faliszewski, A. Slinko, COMSOC-2010.

42. **Approximation Algorithms for Campaign Management**, E. Elkind, P. Faliszewski, ACM Computing Research Repository Technical Report arXiv:1004.0334v1, March 2010.

43. **The Shield that Never Was: Societies with Single-Peaked Preferences are More Open to Manipulation and Control**, P. Faliszewski, E. Hemaspaandra, L.A. Hemaspaandra, and J. Rothe, University of Rochester Department of Computer Science Technical Report 950, September 2009. (Also appears as ACM Computing Research Repository Technical Report arXiv: arXiv:0909.3257v1)

44. **Swap Bribery**, E. Elkind, P. Faliszewski, A. Slinko, ACM Computing Research Repository Technical Report arXiv:0905.3885v1, May 2009.

45. **Manipulating Elections: Algorithms and Infeasibility Results**, P. Faliszewski, University of Rochester Department of Computer Science Technical Report 941, November 2008.

46. **Approximability of Manipulating Elections**, E. Brelsford, P. Faliszewski, E. Hemaspaadnra, I. Schnoor, and H. Schnoor, COMSOC-08.

47. **Llull and Copeland Voting Computationally Resist Bribery and Control**, P. Faliszewski, E. Hemaspaandra, L. Hemaspaandra, and J. Rothe, University of Rochester Department of Computer Science Technical Report 933, May 2008 (revised September 2008), also appears in COMSOC-08.

48. **The Complexity of Power-Index Comparison**, P. Faliszewski and L. Hemaspaandra, University of Rochester Department of Computer Science Technical Report 929, January 2008. (Also appears as ACM Computing Research Repository Technical Report arXiv:0801.4585v1)

49. **Copeland Voting: Ties Matter**, P. Faliszewski, E. Hemaspaandra, L. Hemaspaandra, and J. Rothe, University of Rochester Department of Computer Science Technical Report 926, December 2007. (Also presented at NESCAI-08.)

50. **Nonuniform Bribery**, P. Faliszewski, University of Rochester Department of Computer Science Technical Report 922, October 2007. (Also appears as ACM Computing Research Repository Technical Report arXiv:0711.4924v1)

51. **Copeland Voting Fully Resists Constructive Control**, P. Faliszewski, E. Hemaspaandra, L. Hemaspaandra, and J. Rothe, University of Rochester Department of Computer Science Technical Report 923, October 2007. (Also appears as ACM Computing Research Repository Technical Report arXiv:0711.4759v2)

52. **Llull and Copeland Voting Broadly Resist Bribery and Control**, P. Faliszewski, E. Hemaspaandra, L. Hemaspaandra, and J. Rothe, University of Rochester Department of Computer Science Technical Report 913, February 2007.

53. **On the Autoreducibility of Functions**, P. Faliszewski and M. Ogihara, University of Rochester Department of Computer Science Technical Report 912, January 2007.

54. **The Complexity of Bribery in Elections**, P. Faliszewski, E. Hemaspaandra, and L. Hemaspaandra, COMSOC'06, December 2006. (Also presented at NESCAI-07.)

55. **How Hard is Bribery in Elections?**, P. Faliszewski, E. Hemaspaandra, and L. Hemaspaandra, University of Rochester Department of Computer Science Technical Report 895, April 2006 (revised September 2006). (Also appears as ACM Computing Research Repository Technical Report arXiv:cs/0608081v2)

56. **A Richer Understanding of the Complexity of Election Systems**, P. Faliszewski, E, Hemaspaandra, L. Hemaspaandra, and J. Rothe, University of Rochester Department of Computer Science Technical Report 903, September 2006. (Also appears as ACM Computing Research Repository Technical Report cs.CC/0609112, September 2006.)

57. **The Consequences of Eliminating NP Solutions**, P. Faliszewski and L. Hemaspaandra, *Proceedings of 8th International Workshop on Descriptional Complexity of Formal Systems*, pp. 1–15, NMSU/IFIP, available as NMSU-CS-TR-2006-001, June 2006. (Also appears as ACM Computing Research Repository Technical Report arXiv:cs/0606009)

58. **Open Questions in the Theory of Semifeasible Computation**, P. Faliszewski and L. Hemaspaandra, University of Rochester Department of Computer Science Technical Report 872, June 2005. (Also appears as ACM Computing Research Repository Technical Report cs.CC/0506082, June 2005.)

59. **Exponential Time Reductions and Sparse Languages in NEXP**, P. Faliszewski, ECCC Technical Report TR04-064, August 2004.