

Lirong Xia

CONTACT INFORMATION

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RESEARCH INTERESTS

Social choice theory, game theory, artificial intelligence, algorithms

EDUCATION

Duke University, Durham, North Carolina, USA

2007.8–present. Ph.D. student, Computer Science Department.
Advisor: Prof. Vincent Conitzer.

Stanford University, Stanford, California, USA

2007.4–2007.6. Non-matriculated exchange student, Computer Science Department.
Advisor: Prof. Yoav Shoham.

Tsinghua University, Beijing, China

2004.9–2007.3. Non-matriculated graduate student, Computer Science and Technology.
Advisor: Prof. Mingsheng Ying.

Tsinghua University, Beijing, China

2000.9–2004.7. B.E., Department of Computer Science and Technology.

PUBLICATIONS

Sayan Bhattacharya, Vincent Conitzer, Kamesh Munagala, and Lirong Xia. Incentive Compatible Budget Reporting in Multi-unit Auctions. To appear in *SODA-10*.

Lirong Xia and Vincent Conitzer. Finite Local Consistency Characterizes Generalized Scoring Rules. In *Proceedings of the Twenty-First International Joint Conference on Artificial Intelligence (IJCAI-09)*, pp 336–341, Pasadena, CA, USA, 2009.

Lirong Xia, Michael Zuckerman, Ariel D. Procaccia, Vincent Conitzer, and Jeffrey S. Rosenschein. Complexity of unweighted coalitional manipulation under some common voting rules. In *Proceedings of the Twenty-First International Joint Conference on Artificial Intelligence (IJCAI-09)*, pp 348–353, Pasadena, CA, USA, 2009. Earlier version appeared in COMSOC-08.

Lirong Xia and Jérôme Lang. A Dichotomy Theorem on the Existence of Efficient or Neutral Sequential Voting Correspondences. In *Proceedings of the Twenty-First International Joint Conference on Artificial Intelligence (IJCAI-09)*, pp 342–347, Pasadena, CA, USA, 2009. Earlier version appeared in SCW-08.

Vincent Conitzer, Jérôme Lang, and Lirong Xia. How hard is it to control sequential elections via the agenda? In *Proceedings of the Twenty-First International Joint Conference on Artificial Intelligence (IJCAI-09)*, pp 103–108, Pasadena, CA, USA, 2009.

Vincent Conitzer, Matthew Rognlie, and Lirong Xia. Preference Functions That Score Rankings and Maximum Likelihood Estimation. In *Proceedings of the Twenty-First International Joint Conference on Artificial Intelligence (IJCAI-09)*, pp 109–115, Pasadena, CA, USA, 2009. Earlier version appeared in COMSOC-08.

Jérôme Lang and Lirong Xia. Sequential composition of voting rules in multi-issue domains. *Mathematical Social Sciences* 57(3): 304–324, 2009. Earlier version appeared in IJCAI-07 and TARK-07.

Jing Xiao, Lan Liu, Lirong Xia, and Tao Jiang. Efficient Algorithms for Reconstructing Zero-Recombinant Haplotypes on a Pedigree Based on Fast Elimination of Redundant Linear Equations. *SIAM Journal on Computing* 38(6): 2198-2219, 2009. Earlier version appeared in Proceedings of the ACM/SIAM Symposium on Discrete Algorithms (SODA-07), pp 655-664, 2007.

Lirong Xia and Vincent Conitzer. Generalized Scoring Rules and the Frequency of Coalitional Manipulability. In *Proceedings of the 9th ACM Conference on Electronic Commerce (EC-08)*, pp 109-118, 2008.

Lirong Xia and Vincent Conitzer. A Sufficient Condition for Voting Rules to Be Frequently Manipulable. In *Proceedings of the 9th ACM Conference on Electronic Commerce (EC-08)*, pp 99-108, 2008.

Lirong Xia, Vincent Conitzer, and Jérôme Lang. Voting on Multiattribute Domains with Cyclic Preferential Dependencies. In *Proceedings of the 23rd AAAI Conference on Artificial Intelligence (AAAI-08)*, pp 202-207, 2008.

Lirong Xia and Vincent Conitzer. Determining Possible and Necessary Winners under Common Voting Rules Given Partial Orders. To appear in *Proceedings of the 23rd AAAI Conference on Artificial Intelligence (AAAI-08)*, pp 196-201, 2008.

Lirong Xia and Jérôme Lang. On the neutrality and efficiency of seat-by-seat voting rules and correspondences. Presented at *9th International Meeting of the Society of Social Choice and Welfare*.

Lirong Xia, Jérôme Lang, and Mingsheng Ying. Strongly decomposable voting rules on multiattribute domains. In *Proceedings of the 22nd AAAI Conference on Artificial Intelligence (AAAI-07)*, pp 776-781, 2007.

Lirong Xia, Jérôme Lang, and Mingsheng Ying. Sequential voting rules and multiple elections paradoxes. In *Proceedings of the 11th conference on Theoretical Aspects of Rationality and Knowledge (TARK-07)*, pp 279-288, 2007.

Jing Xiao, Lan Liu, Lirong Xia, and Tao Jiang. Fast Elimination of Redundant Linear Equations and Reconstruction of Recombination-Free Mendelian Inheritance on a Pedigree. In *Proceedings of the ACM/SIAM Symposium on Discrete Algorithms (SODA-07)*, pp 655-664, 2007.

Lirong Xia and Sanjiang Li. On minimal models of the Region Connection Calculus. In *Fundamenta Informaticae* 69(4): 427-446, 2006.

Lei Wang, Xu Liu, Lirong Xia, Guangyou Xu, and Alfred M. Bruckstein. Image orientation detection with integrated human perception cues (or which way is up). In *IEEE International Conference on Image Processing (ICIP-03)* vol 2: 539-542, 2003.

PAPERS IN PREPARATION

Lirong Xia, Vincent Conitzer, and Jérôme Lang. Aggregating Preferences in Multi-Issue Domains by Using Maximum Likelihood Estimators. In submission.

Lirong Xia and Vincent Conitzer. Strategy-proof Voting Rules over Multi-issue Domains with Restricted Preferences. Working draft.

Yongzhi Cao, Lirong Xia, and Mingsheng Ying. Probabilistic automata for computing with words. Submitted to *Journal of Computer and System Sciences*.

HONORS AND AWARDS

Duke CS Outstanding PhD Research Initiation Project Award, 2009. Duke university.

Jame B. Duke Fellowship, 2007–2011. Duke university.

Duke university graduate fellowship, 2007-2009. Department of Computer Science, Duke university.

Feitu Scholarship, 2006. Tsinghua University.

First Class Award, 2006. National Mathematical Modeling Contest for Postgraduates.