

JING CHEN

Chinese citizen; US permanent resident

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Education

Ph.D. in Computer Science, Massachusetts Institute of Technology, 2012.

Supervisor : Professor Silvio Micali

Minor : Mathematics

M.Eng. in Computer Science, Tsinghua University, 2007.

B.Eng. in Computer Science, Tsinghua University, 2004.

Research Interests

Algorithmic Game Theory, Mechanism Design, Auctions, Healthcare,
Algorithms, Logic, Computational Complexity

Academic Positions

Postdoctoral Fellow, School of Mathematics, Institute for Advanced Study, 2012 – 2013.

Assistant Professor, Department of Computer Science, Stony Brook University, 2013 – present.

Affiliated Assistant Professor, Department of Economics, Stony Brook University, 2014 – present.

Selected Honors

NSF CAREER Award, 2016–2021, Division of Computing and Communication Foundations (CCF);

Cisco Fellowship, EECS, MIT;

Outstanding Master Thesis, Computer Science, Tsinghua University.

Selected Academic Services

Co-editor: SIAM Journal on Computing, special issue on STOC 2016.

Program committee: 13th Conference on Web and Internet Economics (WINE), 2017;

16th International Conference on Autonomous Agents and Multiagent Systems (AAMAS), senior PC, 2017;

The 48th Annual Symposium on the Theory of Computing (STOC), 2016;

The ACM Conference on Electronic Commerce (EC), 2017, 2016, 2014, 2013.

Local organizer: Workshop on Adaptive Learning: Theory, Data, and Applications, Stony Brook
Game Theory Summer Festival, 2017.

Papers

Journals

1. *Provision-After-Wait with Common Preferences*
H. Chan, J. Chen, and G. Srinivasan
Transactions on Economics and Computation (TEAC), Vol. 5, Iss. 2, Article 12, 2017.
2. *Leveraging Possibilistic Beliefs in Unrestricted Combinatorial Auctions*
J. Chen and S. Micali
Games, Special Issue on Epistemic Game Theory and Logic, Vol. 7, Iss. 32, 2016.
3. *Optimal Provision-After-Wait in Healthcare*
M. Braverman, J. Chen, and S. Kannan
Mathematics of Operations Research (MOR), Vol. 41, Iss. 1, pp. 352 - 376, 2016.
4. *Tight Revenue Bounds with Possibilistic Beliefs and Level-k Rationality*
J. Chen, S. Micali, and R. Pass
Econometrica, Vol. 83, No. 4, pp. 1619-1639, 2015.
5. *Mechanism Design with Possibilistic Beliefs*
J. Chen and S. Micali
Journal of Economic Theory (JET), special issue dedicated to the interface between Economics and Computer Science (invited), Vol. 156, pp. 77-102, 2015.
6. *The Robustness of Zero-Determinant Strategies in Iterated Prisoner's Dilemma Games*
J. Chen and A. Zinger
Journal of Theoretical Biology (JTB), Vol. 357, pp. 46–54, 2014.
7. *The Order Independence of Iterated Dominance in Extensive Games*
J. Chen and S. Micali
Theoretical Economics (TE), Vol. 8, pp. 125-163, 2013.
8. *Collusive Dominant-Strategy Truthfulness*
J. Chen and S. Micali
Journal of Economic Theory (JET), Vol. 147, Iss. 3, pp. 1300-1312, 2012.
9. *A New Framework to the Design and Analysis of Identity-Based Identification Schemes*
G. Yang, J. Chen, D. Wong, X. Deng, and D. Wang
Theoretical Computer Science (TCS), Vol. 407, Iss. 1-3, pp. 370-388, 2008.
10. *High Performance Architecture for Elliptic Curve Scalar Multiplication Based on FPGA (in Chinese)*
J. Chen, J. Jiang, D. Wong, X. Deng, and D. Wang
J. Computer Research and Development, Vol. 45, Iss. 11, pp. 1947-1954, 2008.
11. *A Buffer Management Policy in IA-64 Large-Scale Video Streaming Servers (in Chinese)*
H. Yu, J. Chen, Y. Li, and W. Zheng
J. Computer Research and Development, Vol. 43, Iss. 4, pp. 729-737, 2006.

Refereed Conferences

12. *Efficient Approximations for the Online Dispersion Problem*
J. Chen, B. Li, and Y. Li
International Colloquium on Automata, Languages and Programming (ICALP), to appear, 2017.
13. *Provision-After-Wait with Common Preferences*
H. Chan and J. Chen
15th International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pp. 278-286, 2016.
Presented at the 26th International Conference on Game Theory, 2015.
14. *Budget Feasible Mechanisms for Dealers*
H. Chan and J. Chen
15th International Conference on Autonomous Agents and Multiagent Systems (AAMAS), pp. 113-121, 2016.
15. *Rational Proofs with Multiple Provers*
J. Chen, S. McCauley, and S. Singh
7th Innovations in Theoretical Computer Science (ITCS), pp. 237-248, 2016.
Presented at the 26th International Conference on Game Theory, 2015.
16. *Auction Revenue in the General Spiteful-Utility Model*
J. Chen and S. Micali
7th Innovations in Theoretical Computer Science (ITCS), pp. 201-211, 2016.
17. *Better Outcomes from More Rationality*
J. Chen, S. Micali, and R. Pass
6th Innovations in Theoretical Computer Science (ITCS), pp. 325-325, 2015.
18. *Truthful Multi-unit Procurements with Budgets*
H. Chan and J. Chen
10th Conference on Web and Internet Economics (WINE), pp. 89-105, 2014.
19. *Optimal Provision-After-Wait in Healthcare*
M. Braverman, J. Chen, and S. Kannan
5th Innovations in Theoretical Computer Science (ITCS), pp. 541-542, 2014.
20. *Mechanism Design with Set-Theoretic Beliefs*
J. Chen and S. Micali
52nd Foundations of Computer Science (FOCS), pp. 87-96, 2011.
21. *Crowdsourced Bayesian Auctions*
P. Azar, J. Chen, and S. Micali
3rd Innovations in Theoretical Computer Science (ITCS), pp. 236-248, 2012.
22. *Robust Perfect Revenue from Perfectly Informed Players*
J. Chen, A. Hassidim, and S. Micali
1st Innovations in Theoretical Computer Science (ITCS), pp. 94-105, 2010.
23. *Robustly Leveraging Collusion in Combinatorial Auctions*
J. Chen, S. Micali, and P. Valiant

- 1st Innovations in Theoretical Computer Science (ITCS)**, pp. 81-93, 2010.
24. *A New Approach to Auctions and Resilient Mechanism Design*
J. Chen and S. Micali
41st Symposium on Theory of Computing (STOC), pp. 503-512, 2009.
25. *A More Natural Way to Construct Identity-Based Identification Schemes*
G. Yang, J. Chen, D. Wong, X. Deng, and D. Wang
Applied Cryptography and Network Security (ACNS), pp. 307-322, 2007.
26. *Malicious KGC Attack in Certificateless Cryptography*
M. H. Au, J. Chen, J. K. Liu, Y. Mu, D. Wong, and G. Yang
2nd Symposium on Information, Computer and Communications Security (ASIACCS),
pp. 302-311, 2007.

Working Papers

27. *Rational Proofs with Non-Cooperative Provers*
J. Chen, S. McCauley and S. Singh
Working paper, 2017.
28. *Crowdsourced Bayesian Mechanisms with Polynomial query Complexity*
J. Chen, B. Li, and Y. Li
Working paper, 2017.
29. *From Bayesian to Crowdsourced Bayesian Auctions*
J. Chen, B. Li, and Y. Li
Working paper, presented at the 27th International Conference on Game Theory, July 2016.

Technical Reports

30. *Resilient Mechanism Design Foundations for Governance of Cyberspace: Exploration in Theory, Strategy, and Policy*
S. Micali, N. Choucri, J. Chen, and C. Williams
MIT Political Science Department Research Paper No. 2013-30, 2013.
31. *Budget-Balanced Maximization of Social Welfare Resilient to Unrestricted Collusion, Privacy, and Beliefs*
P. Azar, J. Chen, and S. Micali
Brazilian Workshop of the Game Theory Society (São Paulo), poster, 2010.
32. *Short Multi-Prover Quantum Proofs for SAT without Entangled Measurements*
J. Chen and A. Drucker
arXiv:1011.0716v2, 2010.

Patents

Private Data Processing. M. V. Dijk, J. Chen, and S. Devadas. US20090158054/WO2009076669.

Students

Shikha Singh, PhD candidate. Project: Rational computation outsourcing.

Bo Li, PhD candidate. Project: Mechanism design with unstructured beliefs.

Yingkai Li, PhD candidate. Project: Mechanism design with unstructured beliefs.

Gowtham Srinivasan, Master, June 2016. Thesis: The computational complexity of the Provision-After-Wait problem in healthcare.

Teaching

- ◆ *Department of Computer Science, Stony Brook University, Stony Brook, NY*
 - Fall 2017 CSE 385 Analysis of Algorithms: Honors
 - Spring 2017 CSE548/AMS542 Analysis of Algorithms
 - Fall 2016 CSE540 Theory of Computation
 - Fall 2015 CSE540 Theory of Computation
 - Spring 2015 CSE547/AMS547 Discrete Mathematics
 - Fall 2014 CSE540 Theory of Computation
 - Spring 2014 CSE691/ECO606 Computational Game Theory
 - Fall 2013 CSE540 Theory of Computation
- ◆ *ACM Class, Zhiyuan College, Shanghai Jiao Tong University, Shanghai, China*
 - Summer 2013 CS390 Computational Game Theory and Mechanism Design

Lectures

- ◆ *From Bayesian to Crowdsourced Bayesian Auctions*
 1. Institute for Interdisciplinary Information Sciences, Tsinghua University, Beijing, China, December 2016.
 2. Department of Computer and Information Science, University of Pennsylvania, December 2016.
 3. Center for Finance, Stony Brook University, November 2016.
 4. IBM Thomas J. Watson Research Center, October 2016.
 5. CSAIL, MIT, October 2016.
 6. Department of Quantitative Economics, Maastricht University, Netherlands, September 2016.
 7. Institute for Theoretical Computer Science, Shanghai University of Finance and Economics, August 2016.
 8. Computer Science Department, Shanghai Jiao Tong University, August 2016.
- ◆ *Tutorial: Game Theory and Mechanism Design, I and II*
 9. Computer Science Department, Stony Brook University, November 2016.
- ◆ *Rational Proofs with Multiple Provers*
 10. Crypto Seminar, Cornell Tech, October 2016.
 11. Charles River Crypto Day, MIT, October 2016.
 12. Theory Seminar, Computer Science Department, Columbia University, March 2016.
- ◆ *Auction Revenue in the General Spiteful-Utility Model*
 13. 7th Innovations in Theoretical Computer Science (ITCS), January 2016.
 14. 11th World Congress of the Econometric Society (ESWC), Montreal, Canada, August 2015.
- ◆ *When Computer Science Meets Economics*

- 15. SUNY Korea Seminar, Stony Brook, October 2015; November 2016.
- ◆ *Resilient Mechanism Design*
 - 16. EECS Department, MIT, April 2015.
- ◆ *How to Allocate Resources that You Do Not Own?*
 - 17. EECS Department, Northwestern University, February 2015.
- ◆ *Better Outcomes from More Rationality*
 - 18. Innovations in Theoretical Computer Science (ITCS), Weizmann Institute of Science, Israel, January 2015.
- ◆ *Optimal Provision-After-Wait in Healthcare*
 - 19. INFORMS International Meeting, invited, Hawaii, June 2016.
 - 20. Keynote, China International Conference on Game Theory and Applications (CICGTA), Shanghai Jiao Tong University, China, December 2014.
 - 21. Institute of Computing Technology, Chinese Academy of Sciences, July 2004.
 - 22. Innovations in Theoretical Computer Science (ITCS), Princeton, January 2014.
 - 23. Economics Seminar, Department of Economics, SUNY Albany, November 2013.
 - 24. Theory Seminar, Computer Science Department, Columbia University, October 2013.
 - 25. Computer Science Department Seminar, Stony Brook University, September 2013.
 - 26. North American Summer Meeting of the Econometric Society (NASM), University of Southern California, June 2013.
 - 27. Women and Mathematics, Institute for Advanced Study and Princeton University, May 2013.
 - 28. Second Cambridge Area Economics and Computation Day, Harvard University, April 2013.
- ◆ *Epistemic Implementation and The Arbitrary-Belief Auction*
 - 29. Dagstuhl Seminar: Interface of Computation, Game Theory, and Economics. Germany, April 2013.
 - 30. DIMACS Theory of Computing Seminar, Rutgers, State University of New Jersey, March 2013.
 - 31. Mathematical Conversations, Institute for Advanced Study, November 2012.
 - 32. Center for Computational Intractability, Computer Science Department, Princeton University, October 2012.
 - 33. Postdoc Seminar, School of Mathematic, Institute for Advanced Study, September 2012.
 - 34. The 23rd Stony Brook Game Theory Festival of the Game Theory Society, Stony Brook University, July 2012.
 - 35. North American Summer Meeting of the Econometric Society, Northwestern, June 2012.
- ◆ *Computational Complexity in Mechanism Design*
 - 36. Tutorial, Computer Science/Discrete Mathematics Seminar, Institute for Advanced Study, November 2012.
- ◆ *Games, Solution Concepts, and Mechanism Design: A Very Short Introduction*
 - 37. Tutorial, Computer Science/Discrete Mathematics Seminar, Institute for Advanced Study, November 2012.
- ◆ *Resilient Mechanism Design and Combinatorial Auctions*
 - 38. Computer Science Seminar, Duke University, April 2012.

39. Computer Science Seminar, Stony Brook University, February 2012.
- ◆ *Resilient Mechanism Design*
 - 40. The Women in Theory Workshop (WIT), rump session, Princeton, June 2012.
 - 41. Innovations in Theoretical Computer Science (ITCS), Graduating Bits, January 2012.
 - ◆ *Mechanism Design with Set-Theoretic Beliefs*
 - 42. Laboratory for Financial Engineering Seminar, MIT, November 2011.
 - 43. Symposium on Foundations of Computer Science (FOCS), Palm Springs, October 2011.
 - 44. Institute for Advanced Study, Princeton, October 2011.
 - ◆ *Crowdsourced Bayesian Auctions*
 - 45. Economics Department Seminar, Stony Brook University, April 2014.
 - 46. Workshop on New Trends in Mechanism Design, Copenhagen Business School, Denmark, September 2011.
 - 47. Workshop on Innovations in Algorithmic Game Theory, Institute of Advanced Studies, Hebrew University of Jerusalem, Israel, May 2011.
 - ◆ *The Robustness of Extensive-Form Rationalizability*
 - 48. Computation and Economics Seminar, Institute of Advanced Studies, Hebrew University of Jerusalem, Israel, May 2011.
 - 49. Faculty of Industrial Engineering and Management, Technion, Israel, May 2011.
 - ◆ *Robust Perfect Revenue from Perfectly Informed Players*
 - 50. Optimization and Network Game Theory Group, Laboratory for Information and Decision Systems, MIT, November 2010.
 - 51. Cryptography and Information Security Seminar, Computer Science and Artificial Intelligence Laboratory, MIT, October 2010.
 - 52. Workshop on Recent Developments in Mechanism Design, IAS, Princeton, June 2010.
 - 53. Theory Seminar, Computer Science Department, Boston University, May 2010.
 - 54. The 1st Symposium on Innovations in Computer Science (ICS'10), Beijing, January 2010.
 - ◆ *Safe Rationalizability and Mechanism Design*
 - 55. The 2nd Brazilian Workshop of the Game Theory Society, University of São Paulo, Brazil, August 2010.
 - 56. Workshop on Solution Concepts for Extensive Games, Aarhus University, Denmark, June 2010.
 - ◆ *The Second-Knowledge Mechanism*
 - 57. Workshop on Implementation Theory, 12th ACM Conference on Electronic Commerce (EC'11), San José, California, June 2011.
 - 58. Workshop on Decentralized Mechanism Design, Distributed Computing, and Cryptography (rump session), IAS and DIMACS, Princeton, June 2010.
 - ◆ *A New Approach to Auctions and Resilient Mechanism Design*
 - 59. China Theory Week, Institute for Theoretical Computer Science, Tsinghua University, Beijing, September 2009.
 - 60. The 41st ACM Symposium on Theory of Computing (STOC'09), Maryland, June 2009.

Other Professional Services

NSF panel: CCF 2014, 2017

Selected referee work: TEAC, TE, IJGT, JOCO, IJA, NetEcon'17, ITCS'17, HPCA'17, FOCS'15, ICALP'14, INFOCOM'14, WINE'13, ASIACRYPT'13, STOC'13, STOC'12, ITCS'12, ICALP'09, Artificial Intelligence, Transactions on Cloud Computing, International Journal of Computational Geometry and Applications, Israel Science Foundation.

PhD thesis committee: Siming Li, Computer Science, Stony Brook, 2017;

Christian Nauerz, Department of Quantitative Economics, Maastricht University, Netherlands, 2016;

Samuel McCauley, Computer Science, Stony Brook, 2016;

Hau Chan, Computer Science, Stony Brook, 2015;

Rui Shi, Computer Science, Stony Brook, 2014;

Mohammad T. Irfan, Computer Science, Stony Brook, 2013.

Faculty advisor of Women in Computer Science (WiCS) at Stony Brook (an official ACM-W chapter).

Faculty representative of Stony Brook Computer Science Department at National Center for Women & Information Technology (NCWIT).