S. Matthew Weinberg

Contact Information	512 Sayre Dr Princeton, NJ 08540	*Cell:* +1 (571)-278-3990 *E-mail:* smweinberg@csail.mit.edu

Research Interests Algorithmic Game Theory, Online Algorithms, Applied Probability, Approximation Algorithms

Education

2010 - 2014 **Massachusetts Institute of Technology** **Cambridge, MA**
Ph.D., Computer Science

- Adviser: Constantinos Daskalakis
- Thesis: Algorithms for Strategic Agents

2006 - 2010 **Cornell University** **Ithaca, NY**
B.A., Mathematics

- GPA: 4.038/4.3
- Magna Cum Laude

Professional Service

Treasurer and Program Committee, the Seventeenth ACM Conference on Economics and Computation, EC 2016

Program Committee, the Eleventh Workshop on the Economics of Networks, Systems and Computation, NetEcon 2016

Program Committee, the Sixteenth ACM Conference on Economics and Computation, EC 2015

Program Committee, Conference on Auctions, Market Mechanisms and Their Applications, AMMA 2015

Program Committee, the Twenty-third International Conference on Artificial Intelligence, IJCAI 2013

Research Experience

Fall 2014 - Present **Princeton University** **Princeton, NJ**
Postdoctoral Researcher.

Fall 2015 **Simons Institute for the Theory of Computing** **Berkeley, CA**
Microsoft Research Fellow.

Summer 2013 **Microsoft Research - New England** **Cambridge, MA**
Research Intern.

| Summer 2011 | **Department of Defense** | **Fort Meade, MD** |
| | NPSC Intern. References available upon request. | |

| Summer 2010 | **Institute for Defense Analyses** | **Princeton, NJ** |
| | SCAMP Participant. References available upon request. | |

| Summer 2009 | **Department of Defense** | **Fort Meade, MD** |
| | Director's Summer Program. References available upon request. | |

| Summer 2008 | **University of Maryland** | **College Park, MD** |
| | REU in network security. | |

TEACHING
EXPERIENCE

| Fall 2014 | **Princeton University** | **Princeton, NJ** |
| | Instructor for COS597A: Algorithmic Mechanism Design. | |

| Spring 2013 | **Massachusetts Institute of Technology** | **Cambridge, MA** |
| | Teaching Assistant for 6.046: Design and Analysis of Algorithms. | |

| Fall 2011 | **Massachusetts Institute of Technology** | **Cambridge, MA** |
| | Teaching Assistant for 6.853: Topics in Algorithmic Game Theory. | |

2007 - 2010	**Cornell University**	**Ithaca, NY**
	Teaching Assistant for CS 4820: Introduction to Analysis of Algorithms.	
	Teaching Assistant for CS 2800: Discrete Structures.	
	Consultant for CS 2110: Object Oriented Programming and Data Structures.	
	Consultant for CS 100J: Introduction to Programming using Java	

RELATED
EXPERIENCE
2013-2014

| | **MIT PRIMES** | **Cambridge, MA** |
| | Mentored and supervised two high school students in algorithmic game theory research. They were named semi-finalists in the 2013 Siemens Competition for Math, Science, and Technology, and co-authored a work in progress paper that was accepted to Learning at Scale 2015. | |

| 2013 | **MIT Undergraduate Research Opportunities** | **Cambridge, MA** |
| | Mentored and supervised an undergraduate student in algorithmic game theory research. | |

AWARDS

| 2014 | **SIGecom Doctoral Dissertation Award** |

| 2014 | **George M. Sprowls Award (for best MIT doctoral theses in CS)** |

| 2013 | **Microsoft Research PhD Fellow** |

| 2012 | **ACM Conference on Electronic Commerce (EC) Best Student Paper Award** |

2011	**National Science Foundation Graduate Research Fellow**
2010	**Akamai Presidential Fellow**
2010	**National Physical Sciences Consortium Fellow**
2009	**Top 200, Putnam Exam**

PUBLICATIONS

- Yang Cai, Nikhil Devanur, S. Matthew Weinberg:
  A Duality Based Unified Approach to Bayesian Mechanism Design.
  In the *48th Annual ACM Symposium on Theory of Computation (STOC), 2016*.

- Mark Braverman, Jieming Mao, S. Matthew Weinberg:
  Parallel Algorithms for Select and Partition with Noisy Comparisons.
  In the *48th Annual ACM Symposium on Theory of Computation (STOC), 2016*.

- Mark Braverman, Jieming Mao, S. Matthew Weinberg:
  Interpolating Between Truthful and Non-truthful Mechanisms for Combinatorial Auctions.
  In the *27th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 2016*.

- Aviad Rubinstein, S. Matthew Weinberg:
  Simple Mechanisms for a Subadditive Buyer and Applications to Revenue Monotonicity.
  In the *16th Annual ACM Conference on Economics and Computation (EC), 2015*.

- Constantinos Daskalakis, Nikhil Devanur, S. Matthew Weinberg:
  Revenue Maximization and Ex-Post Budget Constraints.
  In the *16th Annual ACM Conference on Economics and Computation (EC), 2015*.

- Nikhil Devanur, Jamie Morgenstern, Vasilis Syrgkanis, S. Matthew Weinberg:
  Simple Mechanisms with Simple Strategies.
  In the *16th Annual ACM Conference on Economics and Computation (EC), 2015*.

- Constantinos Daskalakis, S. Matthew Weinberg:
  Bayesian Truthful Mechanisms for Job Scheduling from Bi-criterion Approximation Algorithms.
  In the *26th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 2015*.

- Constantinos Daskalakis, Nicolaas Kaashoek, Christos Tzamos, S. Matthew Weinberg, William Wu:

Game Theory Based Peer Grading for MOOCs.
In the *Second ACM Conference on Learning at Scale (L@S), 2015.*
Work in Progress paper.

- Moshe Babaioff, Nicole Immorlica, Brendan Lucier, S. Matthew Weinberg:
  A Simple and Approximately Optimal Mechanism for an Additive Buyer.
  In the *55th Annual IEEE Symposium on Foundations of Computer Science (FOCS), 2014.*

- Michal Feldman, Nicole Immorlica, Brendan Lucier, S. Matthew Weinberg:
  Reaching Consensus via non-Bayesian Asynchronous Learning in Social Networks.
  In the *17th International Workshop on Approximation Algorithms for Combinatorial Optimization Problems (APPROX), 2014.*

- Pablo D. Azar, Robert Kleinberg, S. Matthew Weinberg:
  Prophet Inequalities with Limited Information.
  In the *25th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 2014.*

- Yang Cai, Constantinos Daskalakis and S. Matthew Weinberg:
  Understanding Incentives: Mechanism Design Becomes Algorithm Design.
  In the *54th Annual IEEE Symposium on Foundations of Computer Science (FOCS), 2013.*

- Yang Cai, Constantinos Daskalakis and S. Matthew Weinberg:
  Reducing Revenue to Welfare Maximization: Approximation Algorithms and other Generalizations.
  In the *24th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 2013.*

- Pablo Azar, Constantinos Daskalakis, Silvio Micali and S. Matthew Weinberg:
  Optimal and Efficient Parametric Auctions.
  In the *24th Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 2013.*

- Yang Cai, Constantinos Daskalakis and S. Matthew Weinberg:
  Optimal Multi-Dimensional Mechanism Design: Reducing Revenue to Welfare Maximization.
  In the *53rd Annual IEEE Symposium on Foundations of Computer Science (FOCS), 2012.*

- Constantinos Daskalakis and S. Matthew Weinberg:
  Symmetries and Optimal Multi-Dimensional Mechanism Design.
  In the *13th ACM Conference on Electronic Commerce (EC), 2012.*
  Best Student Paper Award.

- Yang Cai, Constantinos Daskalakis and S. Matthew Weinberg:
  An Algorithmic Characterization of Multi-Dimensional Mechanisms.
  In the *44th ACM Symposium on Theory of Computing (STOC), 2012.*

- Robert Kleinberg and S. Matthew Weinberg:
  Matroid Prophet Inequalities.
  In the *44th ACM Symposium on Theory of Computing (STOC), 2012.*
  Invited to special issue of Games and Economic Behavior.

- Yang Cai, Constantinos Daskalakis, S. Matthew Weinberg:
  On Optimal Multi-Dimensional Mechanism Design.
  Newsletter of the ACM Special Interest Group on E-commerce, 10(2), 2011.

- Patrick Briest, Shuchi Chawla, Robert Kleinberg, and S. Matthew Weinberg:
  Pricing Randomized Allocations.
  In the *21st Annual ACM-SIAM Symposium on Discrete Algorithms (SODA), 2010.*

INVITED TALKS

- Simons Institute workshop on Complexity and Simplicity in Economics, Berkeley, October 2015

- Microsoft Research CS-Econ Summit, MSR-Redmond, October 2014

- Tutorial on Bayesian Mechanism Design, Conference on Economics and Computation, June 2014

- Dagstuhl Seminar on Electronic Markets and Auctions, Dagstuhl, November 2013

- China Theory Week, Aarhus University, July 2013

- ETP Theory Connections, University of Washington and MSR-Redmond, August 2012

REFERENCES

- **Mark Braverman**.
  Professor, Computer Science, Princeton University.
  Email: mbraverm@cs.princeton.edu

- **Constantinos Daskalakis**.
  Associate Professor, Electrical Engineering and Computer Science, Massachusetts Institute of Technology.
  Email: costis@csail.mit.edu

- **Robert Kleinberg**.
  Associate Professor, Computer Science, Cornell University.
  Email: rdk@cs.cornell.edu

- **Silvio Micali**.
  Professor, Electrical Engineering and Computer Science, Massachusetts

Institute of Technology.
Email: silvio@csail.mit.edu

- **Noam Nisan**.
Professor, Computer Science, Hebrew University of Jerusalem.
Email: noam@cs.huji.ac.il

- **Christos Papadimitriou**.
Professor, Electrical Engineering and Computer Science, University of California at Berkeley.
Email: Christos@cs.berkeley.edu