

David C. Parkes

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Citizenship: USA and UK

Date of Birth: July 20, 1973

Education

University of Oxford

Oxford, U.K.

Engineering and Computing Science, M.Eng (first class), 1995

University of Pennsylvania

Philadelphia, PA

Computer and Information Science, Ph.D., 2001

Advisor: Professor Lyle H. Ungar.

Thesis: *Iterative Combinatorial Auctions: Achieving Economic and Computational Efficiency*

Appointments

George F. Colony Professor of Computer Science, 7/12-present

Cambridge, MA

Harvard University

Co-Director, Data Science Initiative, 3/17-present

Cambridge, MA

Harvard University

Area Dean for Computer Science, 7/13-6/17

Cambridge, MA

Harvard University

Harvard College Professor, 7/12-6/17

Cambridge, MA

Harvard University

Gordon McKay Professor of Computer Science, 7/08-6/12

Cambridge, MA

Harvard University

John L. Loeb Associate Professor of the Natural Sciences, 7/05-6/08
and Associate Professor of Computer Science

Harvard University

Assistant Professor of Computer Science, 7/01-6/05

Cambridge, MA

Harvard University

Lecturer of Operations and Information Management, Spring 2001

Philadelphia, PA

The Wharton School, University of Pennsylvania

Research Intern, Summer 2000

Hawthorne, NY

IBM T.J.Watson Research Center

Research Intern, Summer 1997

Palo Alto, CA

Xerox Palo Alto Research Center

Other Appointments

Co-chair , 9/17- FAS Data Science Masters	Cambridge, MA
Co-chair , 9/17- Harvard Business Analytics Certificate Program	Cambridge, MA
Co-director , 9/17- Laboratory for Innovation Science, Harvard University	Cambridge, MA
Affiliated Faculty , 4/14- Institute for Quantitative Social Science	Cambridge, MA
International Fellow , 4/14- Center Eng. Soc. & Econ. Inst., U. Zurich	Zurich, Switzerland
Visiting Researcher , 9/12-1/13 Microsoft Research New England	Cambridge, MA
Distinguished Visiting Scholar , 1/12-6/12 Christ's College, University of Cambridge	Cambridge, England
Visiting Researcher , 1/12-6/12 Microsoft Research Cambridge	Cambridge, England
Visiting Professor of Computer Science , 9/08-1/09 Ecole Polytechnique Fédérale Lausanne	Lausanne, Switzerland

Research Interests

Multi-agent systems, Digital economy, Machine learning, Causal inference, Data science, Market design, Preference modeling, Bounded rationality, Mechanism design, Algorithmic economics.

Honors and Awards

- Association for Computing Machinery (ACM) Fellow, 2018.
- Association for the Advancement of Artificial Intelligence (AAAI) Fellow, 2014.
- ACM SIGAI Autonomous Agents Research Award, 2017.
- Elected to the Computing Community Consortium (CCC), a standing committee of the CRA, April 2018.
- Named one of Harvard College's Favorite Professors: Class of 2010, Class of 2018.
- Co-organize, Academic Symposium, "From Cells to Cell Phones: Transformative Data in a Changing World" for President Bacow inauguration, October 2018.
- Distinguished Israel Pollak Lecturer, Technion University, April 2018.
- SEAS Faculty Collaboration Award 2017.
- William Mong Distinguished Lecturer, Engineering faculty, University of Hong Kong, 2016.
- Member, Provost's Academic Leadership Forum, Harvard University, 2016-17.
- Discussion leader on "AI and economics", in US State Department roundtable discussion on artificial intelligence and foreign policy, Washington DC, October 2016.

- Panelist in “Preparing for the Future of Artificial Intelligence”, the John F. Kennedy Jr. Forum, Kennedy School of Government, Cambridge MA, November 2016.
- Invited talk on “Life in 2030: How AI Will Transform Work, Life, and Play”, in American Association for the Advancement of Science session on “Artificial Intelligence, People, and Society”, February 2017, organized by the Royal Society.
- Participant, National Academy of Engineering’s 2015 US Frontiers of Engineering Symposium.
- Penn Engineering Ph.D. Commencement Speaker, May 2015.
- CSCW’15 Honorable Mention for “Strategic Voting Behavior in Doodle Polls”, R. Meir, D. C. Parkes and J. Zou.
- NIPS’14 Spotlight talk, “A Statistical Decision-Theoretic Framework for Social Choice”, H. Azari Soufiani, D. C. Parkes and L. Xia.
- AAMAS’12 Best Paper Award for “Predicting Your Own Effort”, D. F. Bacon, Y. Chen, I. Kash, D. C. Parkes, M. Rao and M. Sridharan
- ACM EC’12 Best Paper Award for “Payment Rules through Discriminant-Based Classifiers” P. Duetting, F. Fischer, P. Jirapinyo, J. K. Lai, B. Lubin, and D. C. Parkes.
- Harvard SEAS Capers McDonald Award for Mentoring, 2011-12.
- Member, AAAI Presidential Panel on Long-Term AI Futures, Asilomar Conference Center, Pacific Grove CA, February 2009.
- Nominated for Everett Mendelsohn Award for Excellence in Mentoring, Spring 2007 and 2009.
- Harvard FAS Roslyn Abramson Award for Teaching, Spring 2008.
- NSF Early Career Development Award, 2003-2008.
- Participant, National Academy of Sciences Kavli Frontiers of Science Symposium, Nov 2007.
- Alfred P. Sloan Research Fellowship, 2005-2007.
- AAMAS’06 Best Paper Award for “Instantiating the contingent bids model of truthful interdependent value auctions” (with Takayuki Ito).
- NIPS’04 Spotlight talk, “Approximately Efficient Online Mechanism Design,” D. C. Parkes, S. Singh and D. Yanovsky.
- Advised twelve Thomas Temple Hoopes Prize winning senior theses
- Advised one Fay Prize winning senior thesis, 2017-18
- IBM Faculty Partnership Award, 2002 and 2003.
- IBM Graduate Fellowship Award, 2000-2001.
- Thouron Scholarship to study at the University of Pennsylvania, 1995-1996.
- Lord Crewe Scholarship, Lincoln College, University of Oxford, 1992-1995.

University and Departmental Service

- Chair, Senior faculty search: Machine learning, 2018-2019.
- Member, Senior faculty search: Artificial intelligence and society, 2018-2019.
- Member, Senior faculty search: Statistics department, 2018-2019.
- Co-chair of the Standing Committee on the S.M. Degree in Data Science, 2018-2020.
- Data Science Planning Committee 2015- 2017.
- Data Science Education Sub-Committee, 2016- 2017.
- Data Science Longwood Sub-Committee, 2016- 2017.
- Harvard Science Task Force Committee, Spring '15- 2017.
- FAS Dean's Faculty Resources Committee, Fall '15 - present.
- Advisory Board member, Institute for Applied Computational Science, Harvard University, 2015-present.
- FAS/SEAS Committee on Allston and the School of Engineering and Applied Sciences, Fall'14 - present (co-chair).
- Co-chair, Provost's Task Force on Transportation for Allston Campus, Spring '13-2017.
- SEAS Computational Science and Engineering Program Committee, Spring '13-present.
- Computer Science Committee on Undergraduate Studies, Fall '03 - Present.
- Harvard Academic Deans Council, 2014-2017.
- Co-lead, Proposal for new FAS Data Science Masters, 2015-17.
- Speaker, Harvard College Class of 1951 on their upcoming 65th Reunion, May 2016.
- FAS/SEAS Future of Libraries in Allston Committee, Spring'15-Spring'16 (co-chair)
- Moderate panel on Engineering + Entrepreneurship: Making Robotics Fly, HBS, Hubweek October 2015.
- Speaker, FAS development, September 2015.
- SEAS Steering Committee, August 2013-July 2017.
- FAS Search Advisory Committee to Select the Dean of the School of Engineering and Applied Sciences, Fall '14 - Spring '15.
- SEAS Library Advisory Committee, Spring '13.
- Co-chair Information, Technology and Management program review committee, Spring 2007.
- Speaker, FAS New York Campaign Steering Committee Meeting, December 2013.
- SEAS Allston Summer '13, Summer 2013.

- FAS Sabbatical Policy Committee, Fall '10.
- Speaker, FAS New York Major Gifts Committee, November '10.
- Co-Chair, SEAS Strategic Committee on Applied Mathematics and Computation, Fall '09- Spring'10
- Co-Chair, SEAS Committee on the Transition from ITM to STM, Spring '07.
- FAS Screening Committee, Fall '05- Spring '07.
- FAS Herchel Smith Selection Committee, Spring '06.
- DEAS Junior Faculty Committee on the Future of DEAS, Spring '06.
- Computer Science Faculty Search Committee, Fall '02- Spring '03, Fall '04- Spring '05, Fall'07- Spring'08, Fall '10- Spring '11 (Chair), Fall '12- Spring '13.
- Applied Mathematics Committee on Undergraduate Studies, Fall '01- Spring '02, Spring '13.
- DEAS Electronic Commerce Search Committee, Fall '04- Spring '05.
- Subcommittee on the Degree of Doctor of Philosophy in Information, Technology and Management, Fall '02- 2009.
- Organizer, Computer Science Colloquium Series, Fall '02- Spring '08.
- SEAS Graduate Admissions Committee, Fall '01- Spring '05; SEAS Admissions and Scholarship Committee, Fall '07- Spring '08, Fall '10- Spring '11.

Funding

- IARPA, Hybrid Forecast Competition (HRL subcontract), '17-'18, \$712,000
- Tata comm., Deep learning for econometrics, '18-'20, \$1,000,000
- National Center for Women and Information Technology, Girls Who Code, '17-'18, \$3,000
- FAS Dean's Competitive Fund for Promising Scholarship, The Design of Cooperative Society-Driven Systems, 11/2016 - 5/2017, \$20,000
- Future of Life Institute Fund, Mechanism Design for Multiple AIs, 8/2015-7/2018, \$200,000
- Google Award, Incentive-aligned Information Elicitation, 2015 - 2017, \$294,377
- Co-PI, NIH Statistical and Quantitative Training in Big Data Health Science, '16-'21, \$1.4m
- NSF AF-1301976 Algorithmic Crowdsourcing Systems, '13-'18, \$999,977
- Indo-US Joint Center on Advanced Research in Machine Learning, Game theory and Optimization, Indo-US Science and Technology Forum, '12-'15, \$133,000
- NSF CCF-1101570 *Heuristic Mechanism Design*, '11-'14, \$360,000
- Yahoo! Faculty Research Grant, '09-'10, \$25,000

ARTIFICIAL INTELLIGENCE

January 2019-

- Two sessions, Short intensive program, HBS (January 2019)
- Two sessions, Executive education, HBS (June 2019)

CS 181: MACHINE LEARNING

Spring '17

- Undergraduate course, co-taught with Sasha Rush
- Enrollment: 217
- CUE overall course ratings (5.0 scale): 3.6
- CUE overall instructor ratings (5.0 scale): 4.1

CS 181: INTELL. MACHINES: PERCEPTION, LEARNING AND UNCERTAINTY Spring '10, '11

- Undergraduate course
- Enrollment: 42, 45
- CUE overall course ratings (5.0 scale): 4.33, 4.33
- CUE overall instructor ratings (5.0 scale): 4.56, 4.56
- Also offered as E-CSCI 181 (enrollment 14, 10)

CIS 700: COMPUTATIONAL MECHANISM DESIGN

Fall '08

- Graduate course at EPFL
- Enrollment: 10

CS 285: MULTI-AGENT SYSTEMS

Spring '09, Fall '10

- Graduate course
- Enrollment: 20
- CUE overall course ratings (5.0 scale): 4.2
- CUE overall instructor ratings (5.0 scale): 4.6

CS 182: INTELLIGENT MACHINES: REASONING, ACTIONS AND PLANS Fall '02-'05, Fall '07

- Undergraduate course
- Enrollments: 44, 36, 32, 25, 26
- CUE overall course ratings (5.0 scale): 4.0, 4.1, 3.8, 4.1, 4.2
- CUE overall instructor ratings (5.0 scale): 4.2, 4.4, 4.3, 4.0, 4.4

CS 286R: TOPICS AT THE INTERFACE BETWEEN CS AND ECONOMICS Spring '02-'07, Fall '09

- New graduate course, rotating topics
- **Computational Mechanism Design** Spring '02, '05, '07
 - Enrollments: 29, 24, 14
 - CUE overall course ratings (5.0 scale): 4.4, 4.7, 4.6
 - CUE overall instructor ratings (5.0 scale): 4.8, 4.8, 5.0

- ***Electronic Market Design*** Spring '03
 - Enrollment: 32
 - CUE overall course rating (5.0 scale): 4.5
 - CUE overall instructor rating (5.0 scale): 4.7
- ***Iterative Combinatorial Exchanges*** Spring '04
 - Enrollment: 24
 - CUE overall course rating (5.0 scale): 4.1
 - CUE overall instructor rating (5.0 scale): 4.8
- ***Multi-Agent Learning and Implementation*** Spring '06
 - Enrollment: 24
 - CUE overall course rating (5.0 scale): 4.7
 - CUE overall instructor rating (5.0 scale): 4.8
- ***Assignment, Matching and Dynamics*** Fall '09
 - Enrollment: 26
 - CUE overall course rating (5.0 scale): 4.7
 - CUE overall instructor rating (5.0 scale): 4.9

AM 121: INTRODUCTION TO OPTIMIZATION: MODELS AND METHODS Spring '08, Fall '14, '16

- New undergraduate course
- Enrollment: 37, 75, 61
- CUE overall course rating (5.0 scale): 4.2, 4.1
- CUE overall instructor rating (5.0 scale): 4.5, 4.3

FS 26N: ELECTRONIC TRANSACTIONS: ECONOMIC AND COMPUTATIONAL THINKING Fall '06

- Freshman seminar
- Enrollment: 10
- CUE overall course rating (5.0 scale): 4.6
- CUE overall instructor rating (5.0 scale): 5.0

OPIM 101: INTRODUCTION TO THE COMPUTER AS A DECISION ANALYSIS TOOL Spring '01

- Co-lecturer, The Wharton School, University of Pennsylvania.
- Required freshman course for all business concentrators
- Enrollment 360 (4 sections)

GUEST LECTURES (TEACHING)

- *Deep learning for economic design*, EC 2099: Market Design, Harvard University, November'17.
- *Economic Reasoning and Artificial Intelligence*, CS 108: Intelligent Systems: Design and Ethical Challenges, Harvard University, November'16.
- *Dark pools and trust without transparency*, EC 2099: Market Design, Harvard University,

November '15.

- *Combinatorial Exchanges*, ECON 1465 Market Design, Brown University, October '10
- *Mechanism Design for the Assignment Problem*, AM 50 Introduction to Applied Mathematics, Harvard University, March '09.
- *Adaptive Online Mechanism Design for Sequential Environments*, CS 590A Research Seminar in Artificial Intelligence, University of Washington, May '06.
- *ICE: An Iterative Combinatorial Exchange*, EC 2056 Market Design, Harvard University, April '06.
- *Mechanism Design for Dynamic Environments*, EC 2149 Computational Economics, Harvard University, Nov '05.
- *Mechanism Design for Dynamic Environments*, CS 15-892 Foundations of Electronic Marketplaces, Carnegie Mellon University, Nov '05.
- *Distributed Artificial Intelligence: Self-Interested Agents*, CS 50 Introduction to Computer Science, Harvard University, Dec '03.
- *Auction Design with Costly Preference Elicitation*, EC 2056 Market Design, Harvard University, March '03.
- *Distributed Artificial Intelligence: Self-Interested Agents*, CS 50 Introduction to Computer Science, Harvard University, Dec '02.

Distinguished Lecturer Series

- [1] Machine learning for mechanism design. *Distinguished Israel Pollak Lecture, The Technion, Haifa Israel*, April 2018.
- [2] Robust Methods to Elicit Informative Feedback. *Center for Info. Technology Policy Distinguished Lecturer, Princeton University, Princeton NJ*, May 2017.
- [3] Incentive Engineering: Getting to the right inputs. *William Mong Distinguished Lecture, Engineering faculty, University of Hong Kong*, July 2016.
- [4] Strategic Behavior in Coordination Platforms. *Distinguished Lecture, EECS department, Vanderbilt University*, March 2015.
- [5] Computational Environment Design for Online Communities. *Invited distinguished speaker, Research center for Symbiotic computing, Nagoya Inst. of Technology*, December 2014.
- [6] Mechanism Design as a Classification Problem. *Distinguished Speaker Series, Algorithmic Economics Seminar, Computer Science Department, Carnegie Mellon University, Pittsburgh PA*, November 2012.
- [7] Computational Environment Design for Online Communities. *Distinguished Lecturer Series, Lady Margaret Lecture, Christ's College, University of Cambridge, Cambridge, England*, May 2012.

- [8] Incentive Mechanism Engineering in the Internet Age. *Distinguished Lecturer Series, Computer Science and Automation, Indian Institute of Sciences, Bangalore, India*, November 2010.
- [9] Incentive Mechanism Engineering in the Internet Age. *Distinguished Lecturer Series, Triangle Computer Science, Duke University, Durham, North Carolina*, September 2010.
- [10] Incentive Mechanism Engineering in the Internet Age. *Distinguished Lecture Series, University of British Columbia, Canada*, March 2010.

Invited Talks and Panel Participation at Conferences

- [1] New Challenges, New Tools and New Objectives for Market Design. **Panel**, *European Economic Association and the Econometric Society, Cologne, Germany*, August 2018.
- [2] Deep learning for market design. **Plenary speaker**, *Annual Meeting of the German Economic Association, Freiburg, Germany*, September 2018.
- [3] Deep learning for market design. **Plenary speaker**, *Kick-off Symposium of the AI research center, Nagoya Institute of Technology, Nagoya Japan*, May 2018.
- [4] Data science challenges. *Young Presidents' Organization, New York City*, July 2018.
- [5] Spatial-Temporal Pricing (and Coordination). *Uber Marketplace Optimization Data Science Symposium, San Francisco CA*, March 2017.
- [6] On AI, Markets and Machine Learning. **Plenary speaker**, *Sixteenth International Conference on Autonomous Agents and Multiagent Systems (AAMAS'17), Sao Paolo Brazil*, May 2017.
- [7] Life in 2030: How AI Will Transform Work, Life, and Play. **Plenary speaker**, *American Association for the Advancement of Science session on Artificial Intelligence, People, and Society, organized by the Royal Society*, February 2017.
- [8] How to elicit information when it is not possible to verify the answer. **Plenary speaker**, *Collective Intelligence 2016, New York*, June 2016.
- [9] Mechanism Design through Statistical Machine Learning: Part II (Social choice and matching). **Plenary speaker**, *41th conference on The mathematics of operations research, Lunteren, The Netherlands*, January 2016.
- [10] Mechanism Design through Statistical Machine Learning: Part I (Auctions). **Plenary speaker**, *41th conference on The mathematics of operations research, Lunteren, The Netherlands*, May 2016.
- [11] The Tyranny of Algorithms? **Panel**, *MIT Conference on Digital Experimentation, Cambridge MA*, October 2016.
- [12] Preparing for the Future of Artificial Intelligence. **Panelist**, *the John F. Kennedy Jr. Forum, Kennedy School of Government, Cambridge MA*, November 2016.
- [13] The design of incentive mechanisms through statistical machine learning. **Plenary speaker**, *Optimization Days 2016 conference, HEC Montreal, Canada*, May 2016.

- [14] AI and economics. **Discussion leader**, *US State Department roundtable discussion on artificial intelligence and foreign policy, Washington DC*, October 2016.
- [15] Trust without Disclosure: Dark Pools and Secrecy-Preserving Proofs. **Plenary speaker**, *3rd Conference on Auctions, Market Mechanisms and Their Applications (AMMA), Chicago*, August 2015.
- [16] Payment rules through discriminant-based classifiers. *Indo-US Symposium on New Directions in ML, Game Theory and Optimization, Bangalore, India*, January 2014.
- [17] Flexible Parametric Ranking models. *Indo-US Symposium on New Directions in ML, Game Theory and Optimization, Bangalore, India*, January 2014.
- [18] Peer Prediction. **Plenary speaker**, *Microsoft Research, Machine Learning Summit, Paris, France*, April 2013.
- [19] Engineering Coordinated Behavior Across Socio-Economic Systems. **Plenary speaker**, *94th Annual Conference of Information Processing Society of Japan, Nagoya, Japan*, March 2012.
- [20] Learning Payment rules through Discriminant-Based Classifiers. *Technion-Microsoft Electronic Commerce Day, The Technion, Haifa, Israel*, May 2012.
- [21] Designing Corruption Proof Procurement Auctions. *Conference on Combating Corruption in Public Procurement, Rome, Italy*, July 2012.
- [22] Approximate Incentive Compatibility in Combinatorial Exchanges. *9th Annual International Industrial Organization Conference, Boston, MA*, April 2011.
- [23] Payment Rules for Combinatorial Auctions via Structural Support Vector Machines. **Plenary speaker**, *4th Annual New York Computer Science and Economics Day (NYCE '11), New York NY*, September 2011.
- [24] Promoting Sustainability: Exploring the Role of Expensive, Indirect, and Hidden Markets. *2nd International Conference on Computational Sustainability (CompSust10) Cambridge, MA*, June 2010.
- [25] The Interplay of Machine Learning and Mechanism Design. **Plenary speaker**, *Neural Information Processing Systems Foundation (NIPS '10), Vancouver, B.C., Canada*, December 2010.
- [26] Incentive Engineering in the Internet Age. **Plenary speaker**, *The Twenty-Fourth AAAI Conference on Artificial Intelligence (AAAI '10), Atlanta, GA*, July 2010.
- [27] When Analysis Fails: Heuristic Mechanism Design via Self-Correcting Procedures. **Plenary speaker**, *35th International Conference on Current Trends in Theory and Practice of Computer Science, (SOFSEM '09), Špindlerův, Mlýn, Czech Republic*, January 2009.
- [28] **Panel**: AAAI Study on Long-Term AI Futures. In *21st Int. Joint Conference on Artificial Intelligence IJCAI'09*, Pasadena Conference Center, Pasadena, CA, July 2009.
- [29] Self-Correcting Sampling-Based Dynamic Multi-Unit Auctions. *Conference on Economic Design 2009, Maastricht, The Netherlands*, June 2009.

- [30] Dynamic mechanisms for Distributed Coordination: Models and Methods. **Semi-plenary speaker**, *The Third World Congress of the Game Theory Society (GAMES 2008)*, Chicago IL, July 2008.
- [31] Computational Ironing to Achieve Monotonicity in Dynamic Mechanisms. **Plenary Speaker**, *The 18th International Conference on Game Theory*, Stonybrook NY, July 2007.
- [32] Computational Mechanism Design: An AI Agenda. **Plenary Speaker**, *The 17th Belgian-Dutch Conference on Artificial Intelligence*, Brussels, Belgium, October 2005.
- [33] **Panel**: Spectrum Auctions with Package Bidding. In *31st Annual Research Conference on Communication, Information, and Internet Policy (TPRC'03)*, George Mason University Law School, Arlington, VA, September 2003.
- [34] Computational Mechanism Design: Taming the Strategic Dragon Without Invoking the Complexity Monster. **Plenary Speaker**, *The 2nd International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS'03)*, Melbourne, Australia, July 2003.
- [35] Incremental Revelation in Computational Mechanisms. *American Association for the Advancement of Science Annual Meeting*, Denver CO, February 2003.
- [36] Towards Iterative Combinatorial Exchanges. *3rd FCC Conference on Combinatorial Auctions*, Aspen Institute's Wye River Conference Center, Queenstown MD, November 2003.
- [37] **Panel**: Feasible Auctions and Exchanges for FCC Spectrum Licenses. In *3rd FCC Conference on Combinatorial Auctions*, Aspen Institute's Wye River Conference Center, Queenstown, MD, November 2003.
- [38] **Panel**: Agents and Electronic Commerce. In *2nd International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS'03)*, Melbourne, Australia, July 2003.
- [39] Computational Mechanism Design in the Supply Chain. **Plenary Speaker**, *International Conference on Supply-Chain Management and Electronic Commerce*, Beijing, China, August 2002.
- [40] **Panel**: What is the Best Feasible Mechanism for Auctioning FCC Spectrum Licenses? In *2nd FCC Conference on Combinatorial Auctions*, Aspen Institute's Wye River Conference Center, Queenstown, MD, November 2001.
- [41] Combinatorial Exchanges. *2nd FCC Conference on Combinatorial Auctions*, Aspen Institute's Wye River Conference Center, Queenstown MD, October 2001.

Invited Talks and Panel Participation at Workshops

- [1] Optimal Economic Design through Deep Learning. *Microsoft Research New England Economics Workshop*, Cambridge MA, June 2019.
- [2] Optimal Economic Design through Deep Learning. *14th SIGCOMM-ACMEC Workshop on the Economics of Networks, Systems and Computation (NetEcon)*, Phoenix AZ, June 2019.
- [3] Optimal Economic Design through Deep Learning. *WWW Workshop on the intersection of machine learning and mechanism design*, San Francisco CA, May 2019.

- [4] Optimal Auction Design through Deep Learning. *STOC Workshop on New Frontiers of Automated Mechanism Design for Pricing and Auctions*, Phoenix AZ, June 2019.
- [5] Deep Learning for Multi-Facility Location Mechanism Design. *ACMEC Workshop on Opinion Aggregation, Dynamics, and Elicitation (WADE)*, Ithaca, NY, June 2018.
- [6] Optimal Auctions through Deep Learning. *Simons Institute "Economics and Computation Reunion Workshop"*, Berkeley CA, April 2017.
- [7] Provably Trustworthy Dark Pools. Marketplace Innovation Workshop. *NYU Stern, New York, NY*, December 2016.
- [8] **Plenary speaker:** How to elicit information when it is not possible to verify the answer. *IJCAI Algorithmic Game Theory Workshop*, New York, NY, July 2016.
- [9] **Panel:** Regulatory Mechanisms. *MIT Media Lab "Artificial Intelligence and Governance" symposium*, Cambridge MA, April 2016.
- [10] Enabling Spectrum Sharing in Secondary Market Auctions. Workshop on Complex Auctions and Practice. *Stony Brook, NY*, July 2016.
- [11] **Panel:** Computers Gone Wild: Impact and Implications of Developments in Artificial Intelligence on Society. *Berkman Klein Center, Harvard University*, February 2016.
- [12] Causal Inference in Systems with Multiple Actors and Incentives. *ISAT/DARPA What If? Machine Learning for Causal Inference Workshop*, Cambridge MA, February 2016.
- [13] Strong Truthfulness in Multi-signal Peer Prediction with Overlapping Tasks. *Simons Institute workshop on Algorithmic Game Theory and Practice*, November 2015.
- [14] Strategic Behavior in Coordination Platforms. *Zhejiang University International Research Center of Service, Economics, Management and Computation*, December 2014.
- [15] Robust Peer Prediction. *NIPS Workshop on Transactional Machine Learning and E-Commerce*, Montreal Canada, December 2014.
- [16] Robust Peer Prediction. *ICML Workshop on Crowdsourcing and Human computation*, Beijing, China, June 2014.
- [17] Robust Peer Prediction. *ComsNets Workshop on Social Networks*, Bangalore, India, January 2014.
- [18] New Applications of Search and Learning to Problems of Mechanism Design. **Plenary speaker**, *8th Workshop on Internet and Network Economics (WINE'12)*, Liverpool, UK, December 2012.
- [19] The Interplay of Machine Learning and Mechanism Design. *Indo-US Symposium on New Directions in ML, Game Theory and Optimization*, Bangalore, India, November 2010.
- [20] Preferences, Incentives, and Mechanism Design. *NSF Workshop on Engineered Systems Design*, Arlington, VA, February 2010.
- [21] Mechanism Design and Accounting to Enable Efficient Peer Production and Spectrum Sharing. *CFEM Inauguration*, Aarhus University, Aarhus, Denmark, October 2010.

- [22] **Panel:** Optimization in Multi-Agent Systems. In *AAMAS '10 Workshop*, Toronto, Canada, May 2010.
- [23] Heuristic Mechanism Design. *NSF Computer Science and Economics Workshop, Ithaca, NY*, September 2009.
- [24] Heuristic Mechanism Design. *BRICKS Workshop on Game Theory and Multiagent Systems, Amsterdam, The Netherlands*, June 2009.
- [25] Dynamic Mechanism Design. *Workshop on Networks, Auctions, and Pricing, Cambridge, UK*, June 2009.
- [26] Self-Correcting Sampling-Based Dynamic Multi-Unit Auctions. *Workshop on Information and Dynamic Mechanism Design, Hausdorff Institute, Bonn, Germany*, June 2009.
- [27] Dynamic mechanisms for Distributed Coordination: Models and Methods. *CMS-EMS Workshop on Dynamic Mechanism Design, Kellogg School, Northwestern University, Evanston IL*, May 2008.
- [28] Economic paradigms for the Control of Network Behavior. *AFOSSR Complex Networks Workshop, Arlington VA*, May 2007.
- [29] Combinatorial Markets in the Supply Chain. *NSF Workshop on Collaborative Logistics, Georgia Tech., Atlanta GA*, September 2007.
- [30] **Panel:** Future Directions in Agent-Mediated Electronic Commerce. In *AAMAS Workshop on Agent-Mediated Electronic Commerce IX (AMEC-IX)*, Honolulu, Hawaii, May 2007.
- [31] Periodically-Inaccessible Self-Interested Agents Efficient Online Mechanisms for Persistent. *Seminar on Computational Social Systems, Schloss Dagstuhl, Wadern Germany*, July 2007.
- [32] Efficient Meta-Deliberation Auctions. *DIMACS Conference on Auctions with Transactions Costs, New Brunswick NJ*, March 2007.
- [33] Introduction to Computational Mechanism Design. *AAMAS Workshop on Rational, Robust, and Secure Negotiations in Multi-Agent Systems (RSS'06)*, Hakodate, Japan, May 2006.
- [34] Sequential Decision Making Learning and Mechanism Design. *GATE Workshop, Kellogg School Northwestern University, Evanston IL*, October 2005.
- [35] WiFi Auctions for Dynamic Environments: Last minute tickets and Grid computing. *Institute of Mathematical Sciences Workshop on Uncertainty and Information in Economics, National University of Singapore, Singapore*, June 2005.
- [36] A Market-Inspired Approach to Multiagent Learning and Distributed Implementation. *DARPA Workshop on Distributed Cognitive Systems, Somerville MA*, June 2004.
- [37] Directions in Computational Mechanism Design. *DARPA Information Science and Technology (ISAT) Workshop on the "Network as Economy"*, Alexandria VA, January 2004.
- [38] Building a Prototype of an Iterative Combinatorial Exchange. *NEXTOR Workshop on Government, the airline industry, and the flying public: A new way of doing business, Aspen Institute's Wye River Conference Center, Queenstown MD*, June 2004.

- [39] **Panel:** Design of Simultaneous Exchanges and Proxy Bidding Auctions. In *FCC Combinatorial Auctions and Exchanges Workshop*, Federal Communications Commission, Washington, DC, September 2003.
- [40] **Panel:** Challenging Agent-Mediated Electronic Commerce. In *AAMAS Workshop on Agent-Mediated Electronic Commerce V (AMEC-V)*, Melbourne, Australia, July 2003.
- [41] **Panel:** Feasible Large Scale Two-Sided Auctions with Package Bidding. In *FCC Spectrum Policy Task Force Working Group on Combinatorial Auction Design*, Federal Communications Commission, Washington, DC, July 2002.
- [42] Mechanism Design for Complex Systems: Towards Autonomic Configuration. *Collectives and Design of Complex Systems Workshop, NASA Ames, Moffett Field CA*, August 2002.
- [43] Minimal-Revelation VCG Mechanisms for Combinatorial Auctions. *Seminar on Electronic Market Design, Schloss Dagstuhl, Wadern, Germany*, June 2002.
- [44] Minimal Preference Elicitation: An Equilibrium Approach. *DIMACS Workshop on Computational Issues in Game Theory and Mechanism Design, New Brunswick NJ*, November 2001.

Departmental Seminars and Colloquia

- [1] Optimal Economic Design through Deep Learning. *HBS Digital Initiative Seminar, Cambridge MA*, February 2019.
- [2] Deep Learning for Optimal Economic Design. *MIT/Harvard Economic Theory Seminar, Cambridge MA*, March 2019.
- [3] Peer prediction. *Game theory Seminar, The Technion, Haifa Israel*, April 2018.
- [4] Optimal Economic Design through Deep Learning. *Social and Economic Data Science seminar, London School of Economics, London*, January 2018.
- [5] Spatio-Temporal Pricing for Ridesharing Platforms. *Industrial Organization seminar, Harvard University, Cambridge MA*, November 2017.
- [6] Robust Peer Prediction: Information without Verification. *Data Science in Longwood (DSIL) Seminar, Boston MA*, February 2017.
- [7] Strong truthfulness in peer prediction. *GSBE-ETBC seminar, Maastricht University, Maastricht, The Netherlands*, January 2016.
- [8] Long-term causal effects via behavioral game theory. *Applied Statistics Seminar, Harvard University, Cambridge MA*, November 2016.
- [9] How to elicit information when it is not possible to verify the answer. *Machine Learning Institute, ETH Zurich*, December 2016.
- [10] Incentive Compatible experiment design. *University of Maryland Micro Theory/IO seminar, College Park, MD*, May 2015.

- [11] How to elicit information when it is not possible to verify the answer. *IOMS Colloquium, Department of Information, Operations and Management Sciences, NYU Stern School of Business, New York City*, December 2015.
- [12] Robust peer prediction. *UCLA center for Engineering Economics, Learning and Network, Los Angeles CA*, February 2014.
- [13] Robust Peer Prediction Methods. *Computer Science Colloquium, The Hebrew University of Jerusalem, Israel*, May 2012.
- [14] Robust Peer Prediction Methods. *Microeconomics seminar, University of Cambridge, Cambridge England*, May 2012.
- [15] Payment Rules through Discriminant-Based Classifiers. *University of Chicago Booth School of Business, Chicago IL*, December 2012.
- [16] Mechanism Design through Monotone Branch-and-Bound Search. *London School of Economics, London, UK*, February 2012.
- [17] Learning Payment rules through Discriminant-Based Classification. *IEOR-DRO Seminar, Columbia University, New York NY*, October 2012.
- [18] A Random Graph Model of Multi-Hospital Kidney Exchanges. *Department of Informatics, University of Zurich, Zurich, Switzerland*, May 2012.
- [19] Automated Design of Payment Rules for Combinatorial Auctions via Structural Support Vector Machines. *Boston College, Newton, MA*, April 2011.
- [20] Trust, Feature Explosion and Simplicity—Some Cross-Cutting Issues in Computational Market Design. *Operations and Management Seminar Series, HBS, Boston, MA*, February 2010.
- [21] Incentive Mechanism Engineering in the Internet Age. *School of Computer Science, McGill University, Quebec, Canada*, April 2010.
- [22] Heuristic Mechanism Design. *Economics Department, Bocconi University, Milan, Italy*, November 2010.
- [23] Constructing Dynamic Auctions via Ironing and Stochastic Optimization. *Computer Science Department, Ecole Polytechnique Fédérale Lausanne, Lausanne, Switzerland*, November 2008.
- [24] Explorations in Computational Mechanism Design. *Artificial Intelligence Research Institute, Barcelona Spain*, March 2008.
- [25] Explorations in Computational Mechanism Design. *CART Seminar, Tepper School, CMU, Pittsburgh PA*, March 2008.
- [26] Tell the truth: Incentives for Dynamic Environments. *IOMS, Stern School, New York University, New York NY*, November 2007.
- [27] Tell the truth: Incentives for Dynamic Environments. *Computer Science Department, Cornell University, Ithaca NY*, October 2007.

- [28] Efficient Dynamic Incentive Mechanisms. *Economics Department, Yale University, New Haven CT*, October 2007.
- [29] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *OR/MS Seminar series, University of Massachusetts, Amherst MA*, April 2007.
- [30] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *Computer Science Department, Brown University, Providence RI*, February 2007.
- [31] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *Department of Economics, University College London, London, U.K.*, February 2007.
- [32] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *Applied Mathematics, University of Guelph, Guelph Canada*, January 2007.
- [33] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *Carnegie Mellon University ISR/COS/AI Seminar, Pittsburgh PA*, February 2007.
- [34] Adaptive Sequential Decision Making with Self-interested Agents. *Computer Science Department, Wayne State University, Detroit MI*, October 2006.
- [35] Adaptive Online Mechanism Design for Sequential Environments. *MIT Operations Research Center Seminar, Cambridge MA*, April 2006.
- [36] Adaptive and Truthful Online Mechanisms in Single-Valued Preference Domains. *MIT Theory Colloquium, Cambridge MA*, September 2006.
- [37] Distributed Reinforcement Learning with Self-Interested Agents. *Department of Economics, Washington University in St. Louis, St. Louis MO*, April 2005.
- [38] Scalable and Expressive Iterative Combinatorial Exchanges. *Computer Science Department, Princeton University, Princeton NJ*, February 2005.
- [39] Why Designing Markets for Resource Allocation in Distributed Computational Systems is an Important and Interesting Challenge. *MIT Joint CSAIL-LIDS Networking and Systems Seminar, Cambridge MA*, May 2005.
- [40] Incentive-Compatible Multi-Armed Bandits. *University of Massachusetts Artificial Intelligence Seminar, Amherst MA*, April 2005.
- [41] WiFi Starbucks: Mechanisms for Sequential Decisions. *Negotiation, Organizations and Markets Seminar Series, Harvard Business School, Allston MA*, May 2004.
- [42] Preference Elicitation in Proxied Multiattribute Auctions. *Department of Operations and Information Management, School of Business, University of Connecticut, Storrs CT*, February 2003.
- [43] Preference Elicitation in Proxied Multiattribute Auctions. *CS&E Economics Seminar Series, California Institute of Technology, Pasadena CA*, February 2003.
- [44] Pricing WiFi @ Starbucks-Issues in Online Mechanism Design. *Socio-Technical Infrastructure for Electronic Transactions Seminar Series (STIET), University of Michigan, Ann Arbor MI*, March 2003.

- [45] Overcoming Rational Manipulation in Mechanism Implementations. *Economics Department and Graduate School of Business, Stanford University, Palo Alto CA*, December 2003.
- [46] Vickrey-Based Combinatorial Exchanges. *Decision Sciences, Fuqua School of Business, Duke University, Durham NC*, April 2002.
- [47] Iterative Generalized Vickrey Auctions. *MIT Operations Research Center, Sloan School of Management, Cambridge MA*, October 2001.
- [48] Towards Efficient Auction Mechanisms for Electronic Commerce: Key Computational Challenges. *Electronic Commerce seminar series, North Carolina State University, Raleigh, NC*, October 2000.
- [49] Iterative Combinatorial Auctions: Towards Economic and Computational Efficiency. *Operations and Information Management, The Wharton School, University of Pennsylvania, Philadelphia PA*, April 2000.
- [50] Iterative Combinatorial Auctions. *Electronic Markets seminar series, R.H. Smith School of Business, University of Maryland, College Park MD*, December 2000.

Other Talks

- [1] Raising the bar for Science, Engineering Teaching, and Research at Harvard. *Tradeline College and University Science and Engineering Facilities Conference, Boston MA*, October 2016.
- [2] Long term Causal Effects in Multiagent Economies. *Fifth Game Theory World Congress*, July 2016.
- [3] How to get people to try when all we have are reports from lots of different people Crowdsourcing information without 'programmatically gold' or. *Harvard Applied Math Society Fall seminar series*, October 2016.
- [4] Strategic Voting Behavior in Doodle Polls. *Harvard Undergraduate Economics Association Dinner*, October 2014.
- [5] Incentive Engineering in the Internet Age. *Harvard GSAS Alumni Day Symposium 2010, Cambridge, MA*, April 2010.
- [6] Combinatorial Exchanges. *Yahoo! Labs, Bangalore, India*, November 2010.
- [7] Quantifying Approximate Strategyproofness. *Computer Science and Engineering, University of Michigan, Ann Arbor, MI*, December 2009.
- [8] An Agenda in Heuristic (Computational) Mechanism Design. *Microsoft Research New England, Cambridge, MA*, April 2009.
- [9] Coordination via Dynamic Mechanism Design. *Google, Cambridge, MA*, May 2008.
- [10] Coordination Mechanisms for Dynamic Multi-Agent Environments. *Multi-agents Group seminar, Computer Science Department, Stanford University, Palo Alto CA*, January 2008.

- [11] Coordination Mechanisms for Dynamic Multi-Agent Environments. *Center for Algorithmic Game Theory, Department of Computer Science, University of Aarhus, Aarhus, Denmark*, March 2008.
- [12] Tell the truth: Incentives for Dynamic Environments. *Computer Science Department, EPFL, Lausanne, Switzerland*, October 2007.
- [13] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *University of Toronto AI Seminar, Toronto Canada*, January 2007.
- [14] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *University of Southampton AI Seminar, Southampton, U.K.*, February 2007.
- [15] Incentive Mechanisms for Dynamic Environments. *DIMACS Workshop on the Boundary between Economic Theory and Computer Science, New Brunswick NJ*, October 2007.
- [16] Stable Networks, the Role of Consent, and Information. *Radcliffe Exploratory Seminar on Dynamic Networks: Behavior, Optimization and Design, Cambridge MA*, October 2006.
- [17] Optimal Coordinated Learning Among Self-Interested Agents in the Multi-Armed Bandit Problem. *MIT Reading Group on Game Theory, Cambridge MA*, April 2005.
- [18] Applying Learning Algorithms to Preference Elicitation in Combinatorial Auctions. *Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS'04), Denver CO*, October 2004.
- [19] Applying Learning Algorithms to Preference Elicitation in Combinatorial Auctions. *Adaptive Systems and Interaction Group, Microsoft Research, Redmond WA*, December 2004.
- [20] Applying Learning Algorithms to Preference Elicitation. *Radcliffe Seminar on Revealed and Latent Preferences: Economic and Computational Approaches, Cambridge MA*, May 2004.
- [21] Distributed Implementation of Vickrey-Clarke-Groves Mechanisms. *Adaptive Systems and Interaction Group, Microsoft Research, Redmond WA*, June 2004.
- [22] Distributed Implementation of Mechanisms. *MIT LCS Game theory reading group*, April 2004.
- [23] Revenue-Based Combinatorial Exchanges for Electricity Markets. *Federal Energy Regulatory Commission, Washington DC*, February 2004.
- [24] Efficient Online Mechanisms. *Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS'03), Atlanta GA*, October 2003.
- [25] Anytime Strategyproof Mechanisms. *Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS'03), Atlanta GA*, October 2003.
- [26] Strategyproof Infrastructure for Plug-and Play Negotiation. *MIT LCS Advanced Network Architecture Group, Cambridge MA*, March 2003.
- [27] Minimal-Revelation VCG-Based Combinatorial Auctions. *Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS'02), San Jose CA*, November 2002.

- [28] Iterative Multiattribute Auctions. *Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS'02)*, San Jose CA, November 2002.
- [29] Primal-Dual Methods in Iterative Auction Design. *Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS'01)*, Miami Beach FL, November 2001.
- [30] VGC-Based Combinatorial Exchanges. *Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS'01)*, Miami Beach FL, November 2001.
- [31] Designing Against Manipulation: Vickrey Based Payment Schemes. *Agents & Emergent Phenomena seminar series, IBM T.J. Watson Research Center, Hawthorne NY*, August 2000.
- [32] Updating Vickrey-1961: Towards Multi-attribute Procurement Auctions. *Electronic Commerce Seminar series, IBM T.J. Watson Research Center, Hawthorne NY*, July 2000.
- [33] Towards Iterative, Efficient and Strategy-Proof Combinatorial Auctions. *AI & Statistics seminar series, AT&T Research Labs, Florahm Park NJ*, November 2000.

Graduate Research Advising

THIBAUT HOREL

Sept. '14- August '19.

- Co-advised by Edo Airoidi (Statistics)
- Ph.D. dissertation in Computer science: *Mechanisms of Social Interactions: Inference, Experimental Design and Optimization*.
- Recipient of IBM Student Research Award, 2018
- First position: Postdoctoral fellow, Institute for Data, Systems, and Society, MIT.

DEBMALYA MANDAL

Sept. '14- June '19.

- Ph.D. dissertation in Computer science: *Decision Making with Heterogeneous Agents: Elicitation, Aggregation, and Causal Effects*.
- First position: Postdoctoral Fellow, Columbia Data Science Institute.

HONGYAO MA

Sept. '12- June '19.

- Ph.D. dissertation in Computer science: *Mechanism Design for Coordinating Behavior*
- First position: Postdoc at Uber, Postdoc at Caltech, then Assistant Professor, Decision, Risk and Operations, Columbia Business School

PANOS TOULIS

Sept. '11- May '16.

- Co-advised by Edo Airoidi and Don Rubin (Statistics)
- Ph.D. dissertation in Statistics: *Implicit methods for iterative estimation with large data sets*.
- Recipient of Google Graduate Fellowship.
- First position: Assistant professor of Econometrics and Statistics, Chicago Booth School of Business, University of Chicago.

VICTOR SHNAYDER Sept. '09- May '16.

- Ph.D. dissertation in Computer Science: *Making Peer Prediction Practical*.
- Leave of absence 2012-15 at EdX.

MALVIKA RAO Sept. '07- Nov '15.

- Ph.D. dissertation in Computer Science: *Incentives Design in the Presence of Externalities*.
- Recipient of a Canadian NSERC grant.
- First position: Mozilla

HOSSEIN AZARI SOUFIANI Sept. '09- June '14.

- Ph.D. dissertation in Computer Science: *Revisiting Random Utility Models*.
- Recipient of Siebel Scholarship.
- First position: Researcher, Google Labs New York.

JENS WITKOWSKI Sept'10- June '14.

- Ph.D. dissertation in Computer science: *Robust peer prediction mechanisms*
- Albert-Ludwigs-Universität Freiburg, Germany, Co-advised with Bernhard Nebel
- First position: Postdoc, University of Pennsylvania.

JAMES ZOU Sept. '08- Dec. '13.

- Ph.D. dissertation in Applied Mathematics: *Algorithms and Models for Genome Biology*.
- Recipient of NSF Graduate Fellowship.
- Simons Junior Fellow 2014.
- First position: Postdoc MSR New England and MIT, then Assistant Professor of Biomedical Data Science, Stanford University

JOHN LAI Sept. '09- July '13

- Ph.D. dissertation in Computer Science: *Truthful and Fair Resource Allocation*.
- Recipient of a Siebel Scholarship
- Recipient of an NDSEG Graduate Fellowship
- First position: DropBox, Inc. San Francisco, CA.

HAOQI ZHANG Sept. '07- Sept. '12

- Ph.D. dissertation in Computer Science: *Computational Environment Design*.
- Recipient of an NSF Graduate Fellowship
- Recipient of an NDSEG Graduate Fellowship
- First position: PostDoc at MIT with Rob Miller, then Assistant Professor of Computer Science, Northwestern University

SVEN SEUKEN Sept. '06- May '11

- Ph.D. dissertation in Computer Science: *Hidden Markets: Designing Efficient but Usable Market-based Systems*.
- Recipient of MSR Graduate Fellowship

- First position: Assistant Professor of Computation and Economics, Department of Informatics, University of Zurich
- CHAKI NG Sept. '01- Sept. '11
- Ph.D. dissertation in Computer Science: *Online Mechanism and Virtual Currency Design for Distributed Systems.*
 - Co-advised with Margo Seltzer
 - First position: SVP Product, Music Group Connected Content, Viacom
- SHAILI JAIN Sept. '07- Sept. '10
- Ph.D. dissertation in Computer Science: *Incentives in Social Computing.*
 - Recipient of an NSF Graduate Fellowship
 - Recipient of an ATT Graduate Fellowship
 - First position: CI Fellowship at Yale University with Joan Feigenbaum, then Applied Researcher, Microsoft
- BEN LUBIN Sept. '05- Sept. '10
- Ph.D. dissertation in Computer Science: *Combinatorial Markets in Theory and Practice: Mitigating Incentives and Facilitating Elicitation.*
 - Recipient of a Siebel Fellowship
 - Recipient of a Yahoo! Key Technical Challenge (KTC) grant.
 - First position: Assistant Professor, School of Management, Boston University
- FLORIN CONSTANTIN Sept. '04- June '09
- Ph.D. dissertation in Computer Science: *Expressiveness and Optimization under Incentive Compatibility Constraints in Dynamic Auctions.*
 - First position: Post Doc with Nina Balcan, Georgia Tech, then Optimization Software Engineer, A9.com
- KATY MILKMAN Sept. '04- June. '09
- Co-advised with Prof. Max Bazerman
 - Ph.D. dissertation in Information, Technology and Management: *Studies of Intrapersonal Conflict and Its Implications.*
 - Winner of HBS George S. Dively Award for Outstanding Pre-Dissertation Research, 2008.
 - Winner of Whitebox Fellowship for a short-term visit to Yale University
 - First position: Assistant Professor, OPIM Department, The Wharton School, University of Pennsylvania, Philadelphia PA.
- DAVID CHEN Sept. '03- June '09
- Co-advised with Prof. Peter Coles
 - Ph.D. dissertation in Science, Technology and Management: *Essays on Mobile Advertising and Commerce.*
 - First position: Vice President, Product Management, Triangulate, Inc.
- PAVITHRA HARSHA Sept. '03- Sept. '08
- Co-advised with Prof. Cynthia Barnhart

- Ph.D. dissertation (MIT) in Operations Research: *Mitigating Airport Congestion: Market Mechanisms and Airline Response Models*.
 - First position: Post Doc at MIT with Munther Dahleh, then Research Staff Member, IBM
- RUGGIERO CAVALLO Sept. '02- May '08
- Ph.D. dissertation in Computer Science: *Social Welfare Maximization in Dynamic Strategic Decision Problems*.
 - First position: Post Doc at Yahoo! Research New York, then Researcher, Microsoft Research
- JACOMO CORBO Sept. '02- May '08
- Ph.D. dissertation in Computer Science: *Multiparty Large-Scale Network Formation: Economic Models and Mechanisms*.
 - Recipient of a Fonds de la recherche en santé du Québec (FQRNT) fellowship.
 - First position: Post Doc with Profs. K. Hosanager and R. Guerin, U. Penn.; Assistant Professor, University of Ottawa
- CHRISTOPHER THORPE Sept. '04- May '08
- Co-advised with Prof. Michael Rabin
 - Ph.D. dissertation in Computer Science: *Provably Correct, Secrecy Preserving Computation and its Applications in Auctions and Securities Exchanges*.
 - First position: Founder, Blueleaf
- JOLIE MARTIN Sept. '02- May '08
- Co-advised with Prof. Michael Norton (HBS)
 - Ph.D. dissertation in Information, Technology and Management: *Seeing the Forest for the Trees: Information Aggregation in Online Decision-Making*.
 - First position: Postdoctoral Researcher in the Dynamic Decision Making Laboratory at CMU's Department of Social and Decision Sciences, then Quantitative User Experience Researcher, Google
- JEFFREY SHNEIDMAN Sept. '02- Nov. '08
- Co-advised with Prof. Margo Seltzer
 - Ph.D. dissertation in Computer Science: *Rational Failure in Distributed Systems*.
 - First position: Boston University Law School
- LAURA KANG Sept. '02- Nov. '08
- Ph.D. dissertation in Computer Science: *Open Computational Mechanism Design*.
 - First position: World Evolved Services, New York, NY
- SÉBASTIEN LAHAIE Sept. '02- Nov. '07
- Ph.D. dissertation in Computer Science: *A Modular Framework for Multi-Agent Preference Elicitation*.
 - Recipient of Canadian NSERC fellowship.
 - First position: Research Scientist at Yahoo! Research, New York NY.
- ADAM I. JUDA Sept. '01- May '07.

- Ph.D. dissertation in Information, Technology and Management: *Coordination and Costly Preference Elicitation in Electronic Markets*.
- Co-advised with Pai-Ling Yin, HBS.
- Winner of HBS George S. Dively Award for Outstanding Pre-Dissertation Research, 2005.
- First position: Google, Inc., New York NY.

C. JASON WOODARD

Sept. '00- May '06.

- Ph.D. dissertation in Information, Technology and Management: *Architectural Strategy and Design Evolution in Complex Engineered Systems*.
- Co-advised with Carliss Baldwin, HBS.
- Winner of HBS George S. Dively Award for Outstanding Pre-Dissertation Research, 2003.
- First position: Assistant Professor, School of Information Systems, Singapore Management University.

CURRENT PH.D. STUDENTS:

- Sophie Hilgard (3rd year Ph.D).
- Eric Mibuari (3rd year Ph.D).
- Daniel Moroz (4th year Ph.D.).
- He Sun (4th year Ph.D.; co-advised with Hui Chen, MIT)
- Zhe Feng (4th year Ph.D).
- Paul Tylkin (6th year Ph.D.).

VISITING PH.D. STUDENTS:

- Arpit Agarwal (Sept - Dec '15, IISc. Bangalore, India). Supervised research on multi-task peer prediction.
- Aadirupa Saha (Sept - Dec '15, IISc. Bangalore, India). Supervised research on dueling bandits.
- Rediet Abebe (Fall '14 - Spring'15).
Supervised research on *fair resource allocation and information propagation dynamics*.
Continued to Ph.D. program at Cornell University.
- Harikrishna Narasimhan (Sept - Dec'14, IISc. Bangalore, India.)
Supervised research on *Machine learning and mechanism design*.
First position: Postdoc, Paulson School of Engineering, Harvard University.
- Moritz Drexel (Jan.- July '13, Bonn Graduate School of Economics, Germany.) Supervised research on combinatorial auctions.
- Ludek Cigler (June- July '11, Artificial Intelligence Lab, EPFL, Switzerland.)
Supervised research on *Learning and Mechanisms*.
First position: Software engineering and data scientist, Facebook.
First position: Postdoc, U. Penn with Michael Kearns.

- Paul Dütting (Summer 2010, EPFL, Switzerland.)
Supervised research on *Algorithmic Mechanism Design*.
First position: Senior Research Assistant with Peter Widmayer, ETH Zurich, then Assistant Professor position in the Department of Mathematics at London School of Economics.
- Sujit Gujar (Summer 2009, Indian Institute of Science, Bangalore.)
Supervised research on *Dynamic mechanism design without money*.
First position: Postdoc, EPFL with Boi Faltings.
- Debasis Mishra (Summer 2003, Industrial Engineering, University of Wisconsin.)
Supervised research on *Iterative generalized Vickrey auctions*.
First position: Assistant Professor, Planning Unit, Indian Statistical Institute, New Delhi.
- Loan Le (Summer '04, SEOR, George Mason University)
Supervised research on *Auctions for slot allocation at LaGuardia Airport*.
- Rajdeep Dash (Fall '04, Computer Science, University of Southampton, U.K.)
Supervised research on *Faithful distributed constraint optimization*.
First position: Senior Expert, McKinsey and Company.
- Adrian Petcu (Summer '06, Artificial Intelligence Lab., EPFL, Switzerland.)
Supervised research on *Budget-balanced, distributed mechanisms*.
Member of Dissertation Committee.
First Position: SAP, Switzerland.

Post-doctoral Fellows

- Alon Eden (September 2019- present)
- Max Kleiman-Weiner (September 2018 - present, HDSI and CRCS Fellow, jointly with Sam Gershman and Fiery Cushman)
- Sarah Keren (September 2018 - present, CRCS Fellow, jointly with Barbara Grosz)
- Haifeng Xu (September 2018 - July 2019, jointly with Yiling Chen)
–First position: Assistant Professor of Computer Science, University of Virginia
- Shreyas Sekar (August 2018 - present, LISH Fellow, jointly with Karim Lakhani)
- Berk Ustun (September 2017 - present, CRCS Fellow)
- Hau Chan (September 2017 - June 2018, HISL Fellow)
– First position: Assistant Professor, University of Nebraska-Lincoln
- Nir Rosenfeld (September 2017 - present, CRCS Fellow, jointly with Yaron Singer)
- Goran Radanovic (November 2016-August 2019, CRCS Fellow) –First position: Research Group Leader, Max Planck Institute for Software Systems, Saarbrücken, Germany
- Lior Seeman (September 2015- August 2016, CRCS Fellow, jointly with Yaron Singer)
–First position: Uber

- Fei Fang (September 2016- July 2017, CRCS Fellow)
–First position: Assistant Professor, Inst. for Software Research, School of Computer Science, CMU
- Nisarg Shah (September 2016- July 2017, CRCS Fellow)
–First position: Assistant Professor of Computer Science, University of Toronto
- Harikrishna Narasimhan (September 2015 - September 2018)
– First position: Research Scientist, Google
- Reshef Meir (September 2013 - June 2015, CRCS Fellow)
–First position: Asst. Professor Industrial Engineering, The Technion
- Tanmoy Chakraborty (July 2011- June 2013, CRCS Fellow)
–First position: Facebook
- Lirong Xia (July 2011- June 2013, CRCS Fellow)
–First position: Assistant Professor of Computer Science, RPI
- Ariel Procaccia (September 2009 - July 2011, CRCS Fellow and Rothschild Postdoctoral Fellow)
–First position: Assistant Professor of Computer Science, CMU
- Ian Kash (September 2009 - July 2011, CRCS Fellow)
–First position: Research scientist, Microsoft Research UK
- Felix Fischer (Jan 2010- December 2011, DFG Fellow)
–First position: Lecturer, Statistical Laboratory, University of Cambridge

Professional Activities

- Co-organize, Simons workshop on Information Design and Data Science, Berkeley CA, September 2019.
- Member of Scientific Advisory Committee of the Centrum Wiskunde & Informatica (CWI), Amsterdam, The Netherlands, 2019 - Present
- Participant, CCC Visioning Workshop on Interaction for Artificial Intelligence, Denver CO, January 2019.
- Co-organize, CCC Visioning Workshop on Economics and Fairness, Cambridge MA, May 2019.
- Co-organize, Inaugural Harvard Data Science Initiative Conference, Cambridge MA, October 2018.
- Co-host, Exploratory Open source research workshop, HBS, Cambridge MA, September 2018.
- Co-organize, IJCAI workshop on Game-Theoretic Mechanisms for Data and Information, Stockholm, Sweden, July 2018.
- Council Member, the Computing Community Consortium of the Computing Research Association, 2018-present

- Associate Editor, Journal of Artificial Intelligence Research (JAIR), Special Section on Human Computation and Artificial Intelligence, 2014-2018.
- Member of Scientific Advisory Board: Zhejiang University, University of Zurich and Alibaba, International Research Center of Service, Economics, Management and Computation, 2013 - 2017.
- Review Board Member, Heidelberg Laureate Forum Committee, 2013 -present.
- Member, Chaum/Hurley Research board on Trustworthy Random Sample Elections, 2013-2018.
- Member of Scientific Advisory Board: Technion and Microsoft, Electronic Commerce Research Center, 2011-2017.
- Member of Advisory Board: European Commission FP7 Quality Collectives project, EPSRC ORCHID project, 2011-2017.
- Chair of ACM Special Interest Group on Electronic Commerce, 2011-2015.
- Associate Editor, *ACM Transactions on Economics and Computation*, 2011-present.
- International Research Partner, Aarhus University Center for Research in the Foundations of Electronic Markets, Aarhus, Denmark, 2010-2016.
- Associate Editor, *INFORMS Journal on Computing*, 2009- present.
- Associate Editor, *Journal of Autonomous Agents & Multi-Agent Systems*, 2007- present.
- Editor, *Games and Economic Behavior*, with responsibility to Computer Science, Auctions and Mechanism Design, Sept. 2007- 2018.
- Co-organizer, AAAI Spring Symposium on “AI for the Social Good”, March 2017.
- Meet with Senator Dominique Gillot (former Minister) and representative Claude de Ganay, members of French Parliamentary Office for Evaluation of Scientific and Technological Choices, January 2017, to discuss Artificial Intelligence.
- Member, UK Engineering and Physical Sciences Research Council (EPSRC) Review of UK’s Robotics and Autonomous Systems Research Programme, London England, January 2017.
- Co-organizer, IACS Symposium “Data, Dollars, and Algorithms: The Computational Economy”, Cambridge MA, January 2017.
- Member, Program Committee of IJCAI-ECAI-18 special track on the Evolution of the Contours of AI.
- Member, Workshop/tutorial committee, NIPS 2017.
- Co-editor, special issue of AI Magazine on the OSTP co-sponsored conferences on AI, 2016-17.
- Mentor, ACM SIGAI Career Network and Conference, October 2016.

- Co-organizer, Whitehouse OSTP, CCC and AAAI Workshop on “AI for the Social Good” , Washington DC, June 2016.
- Chair, ACM Trans. on Economics and Computation (TEAC) Editor in Chief Selection Committee, 2015-16.
- Member, Inaugural “One Hundred Year Study on Artificial Intelligence” Panel, Fall ’15-Spring’16.
- Member, Selection committee for Game Theory and Computer Science (Kalai) prize, August ’15-July ’16.
- Program Committee, Fifth Game Theory World Congress, July 2016.
- Co-organizer, Simons Institute workshop on Algorithmic Game Theory and Practice, November 2015.
- Invited Participant, Conference on “The Future of AI: Opportunities and Challenges”, San Juan PR, January 2015.
- Co-Organizer, NIPS Workshop on Analysis of Rank Data: Confluence of Social Choice, Operations Research, and Machine Learning, 2014.
- Co-Organizer, NIPS Workshop on Crowdsourcing and Machine Learning, 2014.
- Co-Organizer, Indo-US Lectures Week in Machine Learning, Game Theory and Optimization, Indian Institute of Science, Bangalore, January 2014.
- Participant, CRA Snowbird Conference, July 2014.
- Co Program Chair, Second AAAI Conference on Human Computation and Crowdsourcing (HCOMP-2014), November 2014.
- Co-editor, Special Issue of ACM Transactions on Internet Technology (TOIT) on Pricing Incentives in Networks, 2013.
- General Chair, 9th Workshop on Internet and Network Economics, Cambridge MA, December 2013.
- Co-organizer, W-PIN+NetEcon 2013: The Joint Workshop on Pricing and Incentives in Networks and Systems, Pittsburgh PA, June 2013.
- Co-organizer, First Cambridge Area Economics and Computation Day (CAEC’11), Cambridge MA, November 2011.
- Advisory Board, Second Cambridge Area Economics and Computation Day (CAEC’13), Cambridge MA, April 2013.
- Co-organizer, 2012 Ad Auctions Workshop, ACM EC 2012, Valencia, Spain, June 8, 2012.
- Co-director, Indo-US Joint Center for Research in Machine Learning, Game theory and Optimization, April 2012- April 2014.
- Co-Director, 13th Trento Summer School on Market Design: Theory and Pragmatics, Trento Italy, June 25- July 6, 2012.

- Arbiter AAI Computer Poker Competition, 2010-2013.
- Mentor, AAMAS 2012 Doctoral Mentoring Consortium, Valencia Spain, June 2012.
- Associate Editor, *Journal of Artificial Intelligence Research*, 2003-2007.
- Associate Editor, *Electronic Commerce Research*, 2002-2009.
- General Chair, *11th ACM Conference on Electronic Commerce (EC'10)*, June 2010.
- Treasurer, International Foundation on Autonomous Agents and Multiagent Systems (IFAAMAS), 2008-2013.
- Program Co-Chair, *7th International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'08)*, May 2008.
- Program Co-Chair, *8th ACM Conference on Electronic Commerce (EC'07)*, June 2007.
- Visitor to Semester Programme on Mechanism Design, Hausdorff Institute, Bonn, Germany, June 2009.
- Co-Organizer, Radcliffe Institute Science Symposium on “Improving Decision Making: Interdisciplinary Lessons from the Natural and Social Sciences”, April 2009.
- Co-Organizer, Radcliffe Exploratory Seminar on Cooperation and Human Systems Design, Radcliffe Institute, Cambridge, MA, March 2009.
- Workshops Chair, *7th ACM Conference on Electronic Commerce (EC'06)*, June 2006.
- Tutorials Chair, *3rd International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS'04)*, July 2004.
- Tutorials Chair, *5th ACM Conference on Electronic Commerce (EC'04)*, June 2004.
- North Americas' Sponsorship Chair, *2nd International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS'03)*, July 2003.
- Steering Committee Chair, *Workshop on the Economics of Networks, Systems and Computation (NetECON)*, 2007-2013.
- Steering Committee Member, *Workshop on Agent-Mediated Electronic Commerce (AMEC)*, 2003-05.
- Co-Organizer, *1st International Workshop on Agent Technology for Sensor Networks (ATSN-07)*, May 2007.
- Co-Organizer, Radcliffe Exploratory Seminar on Dynamic Networks: Behavior, Optimization and Design, October 2006.
- Co-Organizer, Radcliffe Exploratory Seminar on Revealed and Latent Preferences: Economic and Computational Approaches, May 2004.
- Program Co-Chair, *Workshop on Computational Issues in Auction Design*, as part of the DIMACS Special Focus on Computational and Socio-Economic Sciences, October 2004.

- Program Chair, 2nd Workshop on Trading Agent Design and Analysis (TADA'04), July 2004.
- Program Co-Chair, 2nd Workshop on Economics of Peer-to-Peer Systems (P2PECON'04), June 2004.
- Program Co-Chair, AAMAS Workshop on Agent Mediated Electronic Commerce V (AMEC-V), July 2003.
- Program Co-Chair, AAMAS Workshop on Agent Mediated Electronic Commerce IV (AMEC-IV), July 2002.
- Conference Senior Program Committees: IJCAI'11, AAMAS'03, AAMAS'04, IJCAI'05, AAMAS'06.
- Conference Program Committees: HCOMP '13, AAAI '13, ACM Symposium on Cloud Computing (SOCC) 2011, AAAI-11 Computational Sustainability and AI Track, EC'11, Agents'99, Agents'00, Agents'01, AAMAS'02, AAAI'02, EC'03, IJCAI'03, AAAI'03, ICAC'04, AAAI'04, AAMAS'05, UAI'06, AAAI'06, ICEC'06, AI&Math'06, Internet Monetization Track at WWW2010, SOFSEM'10.
- Workshop Program Committees: AAMAS workshop on Fair Allocation in Multiagent Systems (FAMAS), May 2019, AAMAS workshop on Games, Agents and Incentives, (GAIW) May 2019, IJCAI-17 Workshop on Human-Robot Engagement in the Home, Workplace and Public Space, EC'16 Workshop on Ad Auctions, Gamification for Information (GamifIR) workshop '14, HCOMP'11, EC'11 Workshop on Social Computing and User Generated Content, IJCAI'01 Economic Models and Auctions Workshop, P2PECON'03, TADA'03, PINS'04, IJCAI'05 Workshop on Advances in Preference Handling, AAAI'05 Multiagent Learning Workshop, IBC'05, WINE'05, AMEC'05, AAAI'06 Workshop on Auction Mechanisms for Robot Coordination, ICAC'06 International Workshop on Smart Grid Technologies, GECON'06, GECON'07, AAMAS'07 Workshop on Adaptive and Learning Agents, Grid'07 Workshop on Economic Models and Algorithms for Grid Systems, NetEcon-IBC'07, HCOMP'09, GameSec'10.
- Journal Refereeing (**Computer Science**): J. of Artificial Intelligence Research, J. of Computer and Systems Sciences, ACM Transactions on Internet Technology, Naval Research Logistics, Artificial Intelligence J., IEEE Transactions on Computers, IEEE J. on Selected Areas in Communications, IEEE Transactions on the Internet, IEEE Transactions on Dependable and Secure Computing, J. of Algorithms, IEEE Transactions on Systems, Man, and Cybernetics–Part C: Applications and Reviews, J. of Autonomous Agents and Multi-Agent Systems, Management Science, J. of the ACM, IEEE Intelligent Systems, J. of Machine Learning Research, Communications of the ACM, Annals of Mathematics and AI, Computational Intelligence, Computer Networks J., Decision Analysis, Distributed Computing, Decision Support Systems, J. of Computer and Systems Sciences, Proceedings of the National Academy of Sciences, Theoretical Computer Science A, SIAM J. on Computing,
- Journal Refereeing (**Economics and Business**): Decision Analysis, Group Decision and Negotiation J., International J. of Game Theory, Games and Economic Behavior, American Economic Review, Economic J., J. of Decision Support Systems and Electronic Commerce, Electronic Commerce Research and Applications, Econometrica, J. of Economic Theory,

Managerial and Decision Economics, Production and Operations Management, Theoretical Economics, Operations Research, Mathematics of Operations Research, IIE Transactions.

- Conference Refereeing: SODA'10, FOCS'01, AAAI'02 (student abstracts), STOC'02, NIPS'03, HOTOS-IX, PET'03, EC'04, STACS'04, AAAI'04, STOC'05, SIGCOMM'05, SODA'06, LATIN'06, FOCS'07.
- Grant reviewing: NSF Digital Society and Technologies (panelist), NSF Human Computer Interaction (panelist), NSF Artificial Intelligence and Cognitive Science (panelist), NSF IGERT (panelist), Israel Science Foundation, Canada NSERC.
- Research agency panels: DARPA ISAT Panel on “Network as Economy” Spring '04, DARPA ISAT Panel on “Distributed Cognitive Systems” Summer '04, NSF Workshop on “Cyberinfrastructure for the Social Sciences” Spring '05, AFOSR Workshop on “Complex Networks” Spring '07.

Masters Committee Membership

- Ethan Cowen (ALM Info. Tech., Harvard University Extension school, 2019-20)
- Nripsuta Saxena (Computational Science and Engineering, Harvard SEAS, 2017-18)
- Chao Gu (Master in Design Engineering, Harvard University, 2017-18)
- Wei Dai (Computational Science and Engineering, Harvard SEAS, 2015-16)
- Richard Kim (ALM Info. Tech., Harvard University Extension school, 2015-16)
–Recipient of DCE Thesis Award
- Dimitris Papanikolaou (Massachusetts Institute of Technology, November 2010)

PhD Committee Membership

- Hyunkwang Lee (Harvard University, May 2020)
- Jean Pouget-Abadie (Harvard University, September 2018)
- Ming Yin (Harvard University, May 2017)
- Thibaut Horel (Harvard University, May 2019)
- Yuqing Kong (U. Michigan, May 2018)
- Gianluca Brero (U. Zurich, June 2019)
- Rediet Abebe (Cornell University, est. May 2019)
- Adish Singla (ETH Zurich, Switzerland, December 2016)
- Ofra Amir (Harvard university, November 2016)
- Goran Radanovic (EPFL, Switzerland, September 2016)
- Bo Waggoner (Harvard University, May 2016)

- Sam Taggart (Northwestern, Qual exam May 2015)
- Omer Lev (Hebrew University, May 2015)
- Andrew Mao (Harvard University, May 2015)
- Michael Gelbart (Harvard University, May 2015)
- Anna Huang (Harvard University, April 2019)
- Jens Witkowski (U. Freiburg, May 2014)
- Lampros Stavrogiannis (Southampton University, September 2014)
- Moritz Drexler (U. Bonn, September 2014)
- Nima Haghpanah (Northwestern U., July 2014)
- Marco Rocco (Politecnico di Milano, February 2015)
- Alice Xi Gao (Harvard University, June 2014)
- Jon Bischof (Harvard University, August 2013)
- Mohammed T. Irfan (Stony Brook University, June 2013)
- Jonathan Ullman (Harvard University, May 2013)
- Michael Ruberry (Harvard University, September 2013)
- Paul Duetting (EPFL, March 2013)
- Ludek Cigler (EPFL, Lausanne Switzerland, November 2012)
- Albert Jiang (Univ. British Columbia, Vancouver Canada, November 2011)
- Rohan Murty (Harvard University, April 2011)
- Mingyu Guo (Duke University, May 2010)
- Ece Kamar (Harvard University, April 2010)
- Chih-Han Yu (Harvard University, April 2010)
- Patrick Jordan (University of Michigan, December 2009)
- Valentin Robu (CWI, July 2009)
- Eric Budish (Harvard University, April 2009)
- Philip Hendrix (Harvard University, April 2009)
- Pavithra Harsha (Massachusetts Institute of Technology, August 2008)
- Ankit Patel (Harvard University, August 2008)
- Adam Kirsch (Harvard University, April 2008)

- Adrian Petcu (Ecole Polytechnique Fédérale Lausanne, October 2007)
- Ben Edelman (Harvard University, April 2007)
- Pai-Hsiang Hsiao (Harvard University, February 2007)
- Itay Fainmesser (Harvard, Business Economics, Qual. Exam in Fall 2006)
- Laura Serban (Harvard, Business Economics, Qual. exam in Fall 2006)
- Geoffrey Goodell (Harvard University, June 2006)
- Tim Rauenbusch (Harvard University, April 2004)

Undergraduate Research Advising

SHIRA LI

Fall '18 - Spring '19

- A.B. thesis, Mathematics and Computer Science: *Deep Learning for Two-sided Matching Markets*, awarded **Thomas Temple Hoopes Prize** for outstanding undergraduate work.
- Co-advised with Scott Kominers.

MATT LEIFER

Fall '18 - Spring '19

- A.B. thesis, Applied Mathematics: *Don't Hate the Players, Hate the Game: Designing a Provably Trustworthy Stock Market in the Age of High-Frequency Trading*, awarded **Thomas Temple Hoopes Prize** for outstanding undergraduate work.

JAMES LENNON

Fall '18 - Spring '19

- A.B. thesis, Computer Science: *Modeling Human Behavior in Space Invaders*
- Co-advised with Goran Radanovic and Paul Tylkin.

SUPROTEEM SARKAR

Fall '18 - Spring '19

- A.B. thesis, Computer Science: *What makes an effective negotiator? Measuring sophistication, behavior, and learning in bargains*
- Co-advised with Max Kleiman-Weiner

JIAFENG (KEVIN) CHEN

Fall '18 - Spring '19

- A.B. thesis, Applied Mathematics: *Causal inference in matching markets*, awarded **Thomas Temple Hoopes Prize** for outstanding undergraduate work.
- Co-advised with Scott Kominers and Debmalya Mandal.

ELENA WU-YAN

Fall '18 - Spring '19

- A.B. thesis, Computer Science: *Present Pain, Future Gain: Overcoming Present Bias in Exercise Class Reservations via Mechanism Design*
- Co-advised with Hongyao Ma

WILLIAM LONG

Fall '18 - Spring '19

- A.B. thesis, Computer science and Government: *Escaping the State of Nature: A Hobbsian approach to Cooperation in Multi-agent Reinforcement Learning*, awarded **Thomas Temple Hoopes Prize** for outstanding undergraduate work
- Co-advised with Michael Rosen and Max Kleiman-Weiner

ARON SZANTO

Fall '17 - Spring '18

- A.B. thesis *Defuse the News: Predicting Misinformation and Bias in News on Social Networks via Content-Blind Learning*, awarded **Thomas Temple Hoopes Prize** for outstanding undergraduate work.
- Co-advised with Nir Rosenfeld.
- Awarded **Captain Jonathan Fay Prize** for exceptional undergraduate thesis.

ROBERT SHAW

Fall '17 - Spring '18

- *Motivations for Forecasting Platforms.*
- Co-advised with Sophie Hilgard.

DUNCAN RHEINGANS-YOO

Summer '17 - present

- Supported by PRISE.
- *Matching market design for ride-sharing platforms.*
- Co-advised with Scott Kominers and Hongyao Ma.

KATHERINE CHEN

Fall '16 - Spring '17

- A.B. thesis *Incentive-aligned experimental design*, in Statistics.
- Co-advised with Panos Toulis.

SAM GREEN

Fall '16 - Spring '17

- A.B. thesis *Models of Reallocation without Money and generalized TTC*, in Computer Science.
- Co-advised with Nisarg Shah.

JIMMY JIANG

Fall '16 - Spring '17

- A.B. thesis *Planning to intervene under models of time inconsistency*, in Computer Science.
- Co-advised with Hongyao Ma.

MATTHEW LEIFER

Summer '16 - Spring '19

- A.B. thesis (co-advised with He Sun)
- Supported by Harvard College Program for Research in Science and Engineering (PRISE).
- Project on Peer prediction with heterogeneous tasks (led to paper in NIPS'16 CrowdML workshop).

ANSON KAHNG

Fall '15 - Spring '16

- A.B. thesis *Timing Objectives in Dynamic Kidney Exchange*, in Computer Science.
- Ph.D. in computer science, CMU.

LISA WANG

Fall '15 - Spring '16

- A.B. thesis *Constructing Stable Matchings Using Preference Elicitation through Prices and Budgets*, in Computer Science and Mathematics.
- Co-advised with Hongyao Ma.

ROGER HUANG

Fall '15 - Spring '16

- A.B. thesis *Enhancing $ZH \rightarrow \ell b \bar{b}$ Searches with Multiple Interpretations in the ATLAS Detector*, in Physics and Computer Science.
- Co-advised with John Huth.

WILLIAM CHEN

Spring '13 - Spring '14

- A.B. thesis *How to Order Sushi: A Nonparametric Approach to Modeling Rank Data*, in Statistics, awarded Thomas Temple Hoopes Prize for outstanding undergraduate work.
- Work led to paper "Generalized Method-of-Moments for Rank Aggregation" H. Azari Soufiani, W. Chen, D. C. Parkes, and L. Xia, in *Proc. Annual Conference on Neural Information Processing Systems (NIPS 2013)*, 2013.
- Co-advised with Hossein Azari Soufiani.

BRANDON LIU

Fall '13 - Spring '14

- A.B. thesis *Better than PageRank: Hitting Time as a Reputation Mechanism*, in Computer Science.
- Work led to paper "Personalized Hitting Time: A Manipulation-Resistant and Efficient Trust Mechanism", B. Liu, D. C. Parkes and S. Seuken, submitted to *Proc. AAMAS'15*.
- Marshall Scholar 2014-15.

PETCH JIRAPINYO

Fall '10-Spring '11

- A.B. thesis *Designing Payment Rules for Combinatorial Auctions with Structural SVMs*.
- Work led to paper "Payment Rules through Discriminant-Based Classifiers", P. Duetting, F. Fischer, P. Jirpinyo, J. Lai, B. Lubin, and D. C. Parkes *ACM Transactions on Economics and Computation*, 2014.

JEREMY HOON

Fall '10-Spring '11

- A.B. thesis *RABID: Random Auctions for Bandwidth in Internet Devices*.
- Work led to paper "Truthful Prioritization for Dynamic Bandwidth Sharing", V. Shnayder, V. Kawdia, J. Hoon and D. C. Parkes, *Proc. 15th ACM Int. Symp. on Mobile Ad Hoc Networking and Computing (MobiHoc 2014)*, 2014.

YUGA COHLER

Fall '10- Spring '11

- AB thesis *Optimal Envy-Free Cake-Cutting* in computer science and economics,
- Work led to paper "Optimal Envy-Free Cake Cutting" at AAAI'11
- Co-advised with Ariel Procaccia and John Lai

DAVID WU

Fall '10- Spring '11

- A.B. thesis *Move Ranking and Evaluation in the Game of Arimaa*, awarded **Thomas Temple Hoopes Prize** for outstanding undergraduate work
- Work led to paper "Wu, D. (2015). Designing a Winning "Arimaa Program." ICGA

Journal, Vol. 38, No. 1, pp. 19-4 (2015)”

- David later developed the first program to defeat the best Arimaa player before the year 2020, winning \$10,000 prize

JERRY KUNG

Summer '09- Spring '11

- A.B. thesis *Incentive Design for Adaptive Agents* in computer science and economics,
- Herchel Smith fellowship to pursue Part III math tripos at Cambridge, then PhD in OR at MIT
- Work led to paper “Incentive Design for Adaptive Agents” in 10th Int. Conf. on Autonomous Agents and Multiagent Systems (AAMAS'11)
- Co-advised with Haoqi Zhang

JIE TANG

Fall '07- Spring '08

- A.B. thesis *Informativeness and Incentive Compatibility for Reputation Systems* in computer science and economics, awarded **Thomas Temple Hoopes Prize** for outstanding undergraduate work and received highest honors.
- Co-advised with Sven Seuken
- Ph.D. student UC Berkeley, Technical Staff OpenAI, Inc., Tech lead, Dropbox, Inc.

ERIK SCHULTINK

Fall '06- Spring '07

- A.B. thesis *Economic Approaches to Hierarchical Reinforcement Learning* in computer science, awarded **Thomas Temple Hoopes Prize** for outstanding undergraduate work.
- Co-advised with Ruggiero Cavallo.
- Facebook, and CTO at Tuenti.

ABE OTHMAN

Fall '06- Spring '07

- A.B. thesis *The Dancer and the Dance: Agents, Beliefs and Actions in Prediction Markets*.
- Received highest honors in AM/EC and Ph.D. in computer science at CMU.
- Work led to paper “Time Inconsistency and Uncertainty Aversion in Prediction Markets,” at the Third Workshop on Prediction Markets,” I Corwin and A. Othman, in *Third Workshop on Prediction Markets* at ACM EC'08.
- Work led to paper “Zero-Intelligence Agents in Prediction Markets,” A. Othman, in *7th International Conference on Autonomous Agents and Multiagent Systems*, 2008.

QUANG DUONG

Spring '06- Spring '07

- Supported in part by Harvard College Research Program.
- Summer project led to “Chain: A dynamic double auction framework” in *Journal of Artificial Intelligence Research* 2007, to appear.
- A.B. thesis *Adaptive Online Mechanism Design in Single-Valued Domains: An Ironing Approach*, in computer science and economics.
- Work led to paper “An ironing-based approach to adaptive online mechanism design in single-valued domains” in *22nd National Conference on Artificial Intelligence (AAAI'07)*.
- Ph.D. in Computer Science, University of Michigan.

HAOQI ZHANG

Summer '05- Spring '07

- Summer Project on *Clock-proxy auctions for the airport slot auctions*.
- A.B. thesis *Policy Teaching through Reward Function Learning* in computer science and economics, awarded **Thomas Temple Hoopes Prize** for outstanding undergraduate work.
- Honorable Mention, CRA Outstanding Undergraduate Award '07.
- Course development for AM 121, Summer '07.
- Recipient of an NSF Graduate Fellowship
- Recipient of an NDSEG Graduate Fellowship

QICHENG MA

Fall '05- Spring '06

- A.B. thesis *Utility-Based Bandwidth Allocation and Link Scheduling in Wireless Networks: Linear Programming and Market-Oriented Approaches* (co-advised with Matt Welsh) and received highest honors in computer science.
- Work led to paper in *1st International Workshop on Agent Technology for Sensor Networks (ATSN-07)*.
- SM in Computer Science at Stanford University

R. KANG-XING JIN

Fall '05- Spring '06

- A.B. thesis *Leveraging Bidder Behavior to Identify Categories of Substitutable and Complementary Goods on eBay* in computer science (co-advised with Patrick Wolfe) and received highest honors.
- Work led to paper in *1st Workshop on Plan, Activity and Intent Recognition (PAIR'07)* at AAAI'07.
- Facebook

JOHN LAI

Fall '04- Spring '05

- A.B. thesis *Accelerated Implementations of the Ascending Proxy Auction* in computer science and mathematics, awarded **Thomas Temple Hoopes Prize** for outstanding undergraduate work and received highest honors.

RUI DONG

Fall '04- Spring '05

- A.B. thesis *Combinatorial Clock Auction for Airport Time Slots: An Agent-Based Analysis* in computer science and economics.
- Honorable Mention, CRA Outstanding Undergraduate Award '05.

DIMAH YANOVSKY

Summer'03- Spring '05

- Supported in part by Harvard College Research Program.
- Work led to paper "Approximately efficient online mechanism design" in *18th Annual Conference on Neural Information Processing Systems (NIPS'04)*.
- A.B. thesis *Uniform Sampling in a Wireless Network Via a Market Inspired Method* in computer science (co-advised with Matt Welsh).

KYNA FONG

Fall '02- Spring '03

- A.B. thesis *Multi-Stage Information Acquisition in Auctions* in applied mathematics and economics, awarded **Thomas Temple Hoopes Prize** for outstanding undergraduate work

and received highest honors.

- Assistant Professor of Economics, Stanford University.

GRANT SCHOENEBECK

Fall '02- Spring '03

- Supported in part by Harvard College Research Program.
- Work led to paper “Anytime VCG-Based mechanisms” in *19th National Conference on Artificial Intelligence (AAAI'04)*.
- Honorable mention, CRA Outstanding Undergraduate Award '04.
- Ph.D. in computer science, UC Berkeley. Professor of computer science, U. Michigan.

ADITYA SUNDERAM

Summer '02

- Supported in part by Harvard College Research Program.
- Work led to short paper “Preference elicitation in proxied multiattribute auctions” in *4th ACM Conference on Electronic Commerce (EC'03)*.
- Runner-up, CRA Outstanding Undergraduate Award '05.
- Ph.D. in economics, Harvard. Professor of Business Administration, HBS.

OTHER UNDERGRADUATE STUDENTS

- Supervised research of Kojin Oshiba on deep learning for econometrics, Fall 2017-Spring 2019.
- Supervised research of Haruku Uchida on fairness and machine learning, Spring 2017.
- Supervised research of Jonathan Iyandemye on fairness and machine learning, Fall 2017.
- Supervised research of Christian Ondaatje on digital resource markets (with Eric Mibuari), Fall 2017.
- Supervised research of Noah Golowich on Deep learning for Mechanism Design, '16-17.
- Supervised research of Kendall Sherman on Elicitation and Matching, Fall '14.
- Supervised research of Keyon Vafa on Computational social science, Fall '14.
- Supervised research of Dakota Diggs and Peter Wei on Computational poker, Spring '14.
- Supervised research of Nitish Lakhanpal and Ted An, Summer '10.
- Co-supervised with Haoqi Zhang an independent study of Dylan Lake and Eric Huang on computational environment design, Summer '09.
- Advised CS thesis of Ivo Parashkevov '07, *Stochastic FP-Q for Stochastic Games*.
- Advised CS/EC thesis of Jimmy Sun '07, *The Role of Value of Information Based Meta-reasoning in Adaptive Sponsored Search Auctions*.
- Supervised independent study of Brad Diephuis, Jie Tang and Mark Yetter on *The Egg project*, Summer '06.
- Advised CS thesis of Aditya Sanghvi '06, *An Online, Budget-Constrained Truthful Mechanism*.

- Supervised independent study of Aaron Bernstein on *Faithful distributed constraint optimization*, Summer '06.
- Co-advised CS/Psych thesis of Luke Hedrick '05, *A Computational Model of the role of affect in decision-making: Learnability of approach avoidance behaviors by simple agents*, with Daniel Gilbert.
- Advised AM thesis of Ryan Davies '05, *Distributed Generalized Vickrey Auctions Based on the Dantzig-Wolfe and Benders Decomposition Methods for Linear Programs*.
- Supervised independent study of Aaron Roth on *Community Detection for eBay Trading Networks*, Summer '05. Currently a Ph.D. student in computer science at CMU.
- Supervised independent study of Ariel Kleiner on *Fictitious play for Nash equilibria*, Fall '05. Currently a Ph.D. student at U.C. Berkeley.
- Advised CS thesis of Ed Naim '04, *Consensus Mechanisms: Anytime Strategyproof Mechanisms for Combinatorial Auctions*.
- Advised CS thesis of Andrew Bosworth '04, *DRATS: Dynamically Re-Allocated Team Search*.
- Supervised independent study of D.J. Lee on *Faithful distributed optimization*, Summer '04.
- Supervised independent study of Saurabh Sanghvi on *Hard to manipulate combinatorial auctions*, Summer '03.
- Advised CS thesis of David Krych '03, *Calculation and Analysis of Nash Equilibria of Vickrey-Based Payment Rules for Combinatorial Exchanges*.
- Co-advised CS thesis of Richard Kim '02 on *The Appeal of Randomness: Introducing a Social Commitment Policy Based on Probabilistic Determination* with Barbara Grosz. Received highest honors.

OTHER UNDERGRADUATE ACTIVITIES

- Harvard Trading Agent Competition Teams:
 - Rui Dong, Wilfred Yeung, Terry Tai (*HarTac*), Summer '03
 - David Hammer, Qicheng Ma, Lukasz Stozek, and Hassan Sultan (*Intuition*), Summer '04
 - Evan Sprecher and Ariel Kleiner (*Remix*), Summer '05.

OTHER RESEARCH ADVISING

- Sai Srivatsa Ravindranath, Research Fellow, April 2018-August 2019.

Visitors Hosted

- Barton Lee (UNSW), Spring 2019
- Yusuke Hara (Tokohu University), Feb. '17 - Mar. '17.
- Christos Dimitrakakis (Chalmers and Lille), May '16 - Dec. '16, Aug. '17-Jul. '18, June '19.
- Shivani Agarwal (IISc. Bangalore), Sept. - Dec'14.
- Jason Hartline (Northwestern University), June '14 - May '15.
- Nicole Immorlica (Microsoft New England and Northwestern), Sept. '13- Dec. '13.
- Craig Boutilier (University of Toronto), Sep. '10.
- Shaheen Fatima (Loughborough University), Apr. '09.
- Jonathan Bredin (Colorado College), Aug. '04- Apr. '05.
- Takayuki Ito (Nagoya Institute of Technology), Mar. '05- Sep. '05
- Johan Pouwelse (Deftt University of Technology), Jun. '07- Aug. '07, July '08- Aug. '08

Books

- [1] David C. Parkes and Sven Seuken. *Algorithmic Economics: A Design Approach*. Cambridge University Press, March 2020.

Conference Papers

All of the conference proceedings listed below are heavily refereed.

- [1] Nripsuta Saxena, Karen Huang, Evan DeFilippis, Goran Radanovic, David Parkes, and Yang Liu. How do fairness definitions fare? examining public attitudes towards algorithmic definitions of fairness. In *Proceedings of AI Ethics and Society (AIES'19)*, 2019.
- [2] Goran Radanovic, Rati Devidze, David C. Parkes, and Adish Singla. Learning to collaborate in markov decision processes. In *Proc. 36th International Conference on Machine Learning, (ICML'19)*, pages 5261–5270, 2019.
- [3] Hongyao Ma, Reshef Meir, David C. Parkes, and James Zou. Contingent payment mechanisms for resource utilization. In *Proc. 18th International Conference on Autonomous Agents and MultiAgent Systems (AAMAS'19)*, pages 422–430, 2019.
- [4] Hongyao Ma, Fei Fang, and David C. Parkes. Spatial-temporal pricing for ridesharing platforms. In *Proc. 20th ACM Conference on Economics and Computation (EC'19)*, page 583, 2019.
- [5] Paul Duetting, Zhe Feng, Harikrishna Narasimhan, David C. Parkes, and Sai Srivatsa Ravindranath. Optimal auctions through deep learning. In *Proc. 36th International Conference on Machine Learning, (ICML'19)*, pages 1706–1715, 2019.

- [6] Christos Dimitrakakis, Yang Liu, David C. Parkes, and Goran Radanovic. Bayesian fairness. In *Proceedings of the 33rd AAAI Conference on Artificial Intelligence (AAAI'19)*, 2019.
- [7] Jean Pouget-Abadie, Vahab S. Mirrokni, David C. Parkes, and Edoardo M. Airoldi. Optimizing cluster-based randomized experiments under monotonicity. In *Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining, KDD*, pages 2090–2099, 2018.
- [8] Reshef Meir and David C. Parkes. Playing the wrong game: Bounding externalities in diverse populations of agents. In *Proceedings of the 17th International Conference on Autonomous Agents and MultiAgent Systems, AAMAS*, pages 86–94, 2018.
- [9] Hongyao Ma, Reshef Meir, and David C. Parkes. Social choice with non quasi-linear utilities. In *Proceedings of the 2018 ACM Conference on Economics and Computation*, page 49, 2018.
- [10] Noah Golowich, Harikrishna Narasimhan, and David C. Parkes. Deep learning for multi-facility location mechanism design. In *Proceedings of the Twenty-Seventh International Joint Conference on Artificial Intelligence, IJCAI*, pages 261–267, 2018.
- [11] Zhe Feng, Harikrishna Narasimhan, and David C. Parkes. Deep learning for revenue-optimal auctions with budgets. In *Proceedings of the 17th International Conference on Autonomous Agents and MultiAgent Systems (AAMAS'18)*, pages 354–362, 2018.
- [12] Rediet Abebe, Jon M. Kleinberg, David C. Parkes, and Charalampos E. Tsourakakis. Opinion dynamics with varying susceptibility to persuasion. In *Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining, KDD*, pages 1089–1098, 2018.
- [13] David C. Parkes, Paul Tylkin, and Lirong Xia. Thwarting Vote Buying Through Decoy Ballots. In *Proc. 26th International. Joint Conference on Artificial Intelligence (IJCAI'17)*, pages 3784–3790, 2017.
- [14] David C. Parkes, Paul Tylkin, and Lirong Xia. Thwarting Vote Buying Through Decoy Ballots. In *Proc. 16th Conf. on Autonomous Agents and Multiagent Systems (AAMAS'17)*, pages 1679–1681, 2017.
- [15] Hongyao Ma, David C. Parkes, and Valentin Robu. Generalizing Demand Response Through Reward Bidding. In *Proc. 16th Conf. on Autonomous Agents and Multiagent Systems (AAMAS'17)*, pages 60–68, 2017.
- [16] Christos Dimitrakakis, David C. Parkes, Goran Radanovic, and Paul Tylkin. Multi-View Decision Processes: The Helper-AI Problem. In *Proc. 30th Advances in Neural Information Processing Systems (NIPS'17)*, pages 5449–5458, 2017.
- [17] Arpit Agarwal, Debmalya Mandal, David C. Parkes, and Nisarg Shah. Peer Prediction with Heterogeneous Users. In *Proc. Eighteenth ACM Conference on Economics and Computation, (EC'17)*, pages 81–98, 2017.
- [18] Rediet Abebe, Jon M. Kleinberg, and David C. Parkes. Fair Division via Social Comparison. In *Proc. 16th Conf. on Autonomous Agents and Multiagent Systems (AAMAS'17)*, pages 281–289, 2017.

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Consulting

- Technical advisor to Cmorq., Inc., 2018-present.
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- Acting Chief Scientist to Nift networks, Inc. (Boston, MA), 2014- present.
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- Scientific Advisor to *Nanigans, Inc.* (Boston, MA), 2011-2017
- Technical Advisor to *Yeast, LLC* (Boston, MA), 2011- present.
- Technical Advisor to *TopProspect, Inc.* (San Francisco, CA), 2011.
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- Technical Advisor to *CombineNet, Inc.* (Pittsburgh, PA), 2001-2010.
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