

David C. Parkes

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October 2011

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

Gordon McKay Professor of Computer Science, 7/08-present

Cambridge, MA

Harvard University

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

Cambridge, MA

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

Visiting Appointments

Visiting Professor of Computer Science, 9/08-1/09

Lausanne, Switzerland

Ecole Polytechnique Fédérale Lausanne

Research Interests

Multi-agent systems, Game theory, Mechanism design, Electronic commerce, Stochastic optimization, Preference elicitation, Bounded rationality, Social computing.

Honors

- Named one of Harvard Class of 2010 Favorite Professors.
- Harvard FAS Roslyn Abramson Award for Teaching, Spring 2008.

- Alfred P. Sloan Research Fellowship, 2005-2007.
- Advised six Thomas Temple Hoopes Prize winning senior theses, 2002-.
- Nominated for Everett Mendelsohn Award for Excellence in Mentoring, Spring 2007 and 2009.
- NSF Early Career Development Award, 2003-2008.
- IBM Faculty Partnership Award, 2002 and 2003.
- IBM Graduate Fellowship Award, 2000-2001.
- AAMAS'06 Best Paper Award for “Instantiating the contingent bids model of truthful interdependent value auctions” (with Takayuki Ito).
- Participant, National Academy of Sciences Kavli Frontiers of Science Symposium, Nov 2007.
- Thouron Scholarship to study at the University of Pennsylvania, 1995-1996. Awarded to 5–6 graduating students in the U.K. each year.
- Lord Crewe Scholarship, Lincoln College, University of Oxford, 1992-1995.

Professional Activities

- Member of Scientific Advisory Board: Technion and Microsoft, Electronic Commerce Research Center, 2011-
- Member of Advisory Board: European Commission FP7 Quality Collectives project, EPSRC ORCHID project.
- Associate Editor, ACM Transactions on Economics and Computation, 2011-
- General Chair, 11th ACM Conference on Electronic Commerce (EC'10), June 2010.
- Treasurer, International Foundation on Autonomous Agents and Multiagent Systems (IFAAMAS), 2008-
- 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.
- Member, AAAI Presidential Panel on Concerns about Long-Term AI Futures, Asilomar Conference Center, Pacific Grove CA, February 2009.
- 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.

- Editor, *Games and Economic Behavior*, with responsibility to Computer Science, Auctions and Mechanism Design, Sept. 2007- present.
- Associate Editor, *Journal of Autonomous Agents & Multi-Agent Systems*, 2007- present.
- Associate Editor, *INFORMS Journal on Computing*, 2009- present.
- Associate Editor, *Journal of Artificial Intelligence Research*, 2003-2007.
- Associate Editor, *Electronic Commerce Research*, 2002-2009.
- 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).
- Steering Committee Member, Workshop on Agent-Mediated Electronic Commerce (AMEC).
- 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: 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: 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.

University and Departmental Service

- 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).
- Computer Science Committee on Undergraduate Studies, Fall '03 - Present.
- Applied Mathematics Committee on Undergraduate Studies, Fall '01- Spring '02.
- 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.

Visitors Hosted

- 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 (Delft University of Technology), Jun. '07- Aug. '07, July '08- Aug. '08

Graduate Research Advising

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

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

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 (from Oct. '09)

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

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

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. (from Sep. 1, 2008); 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.

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.

- 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: **Computer Science**

- Hossein Azari (3rd year Ph.D., co-advised with Edo Airoldi, Statistics).
- John Lai (3rd year Ph.D.)
–Recipient of an NDSEG Graduate Fellowship
- James Zou (4th year Ph.D.)
–Recipient of an NSF Graduate Fellowship
- Victor Shnayder (5th year Ph.D., co-advised with Greg Morrisett).
- Haoqi Zhang (5th year Ph.D.)
–Recipient of an NSF Graduate Fellowship
–Recipient of an NDSEG Graduate Fellowship
- Malvika Rao (5th year Ph.D.)
–Recipient of a Canadian NSERC grant.

VISITING PH.D. STUDENTS:

- Ludek Cigler (June- July '11, Artificial Intelligence Lab, EPFL, Switzerland) Supervised research on Learning and Mechanisms.
- Jens Witkowski (Sept. '10- Dec. '11, University of Freiburg, Germany) Supervised research on Reputation Mechanisms.
- Paul Dütting (Summer 2010, EPFL, Switzerland) Supervised research on Algorithmic Mechanism Design.
- Sujit Gujar (Summer 2009, Indian Institute of Science, Bangalore)
Supervised research on *Dynamic mechanism design without money*.
- Debasis Mishra (Summer 2003, Industrial Engineering, University of Wisconsin)
Supervised research on *Iterative generalized Vickrey auctions*.
Current 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*.

- Adrian Petcu (Summer '06, Artificial Intelligence Lab., EPFL, Switzerland.)
Supervised research on *Budget-balanced, distributed mechanisms*.
Member of Dissertation Committee.
Current Position: SAP, Switzerland

Post-doctoral Students

- Tanmoy Chakraborty (July 2011- June 2013, CRCS Fellow)
- Lirong Xia (July 2011- June 2013, CRCS Fellow)
- 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

Masters Committee Membership

- Dimitris Papanikolaou (Massachusetts Institute of Technology, November 2010)

PhD Committee Membership

- 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

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.
- Currently a Ph.D. student in economics at Harvard.

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.
- Currently 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.
- Currently a Ph.D. student in computer science at U.C. Berkeley.

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).

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.
- Currently a Ph.D. student at Harvard (Cambridge MA).

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.

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)*.
- Currently a SM student 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.
- Currently at Facebook

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.
- Currently a Ph.D. student at Harvard.

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)*.
- Currently a Ph.D. student in computer science at University of Michigan.

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.

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 currently a Ph.D. student 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.

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
- Currently a Ph.D. student UC Berkeley.

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

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

- AB thesis *Move Ranking and Evaluation in the Game of Arimaa*, awarded **Thomas Temple Hoopes Prize** for outstanding undergraduate work

OTHER UNDERGRADUATE STUDENTS

- 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.
- 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*.
- 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.

- 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.
- 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.
- 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*.
- Co-supervised with Haoqi Zhang an independent study of Dylan Lake, Jerry Kung and Eric Huang on computational environment design, Summer '09.
- Supervised research of Nitish Lakhanpal, Jerry Kung and Ted An, Summer '10.
- Supervised senior thesis research of Jerry Kung, Yuga Cohler, Ted An, John Regan, David Wu and Petch Jirapinyo, '10-'11.
- Co-advised senior thesis of Jeremy Hoon '11 on *RABID: Random Auctions for Bandwidth in Internet Devices* with Victor Shnayder
- Advised senior thesis of Pichayut Jirapinyo '11 on *Designing Payment Rules for Combinatorial Auctions with Structural SVMs*

Other Undergraduate Activities

HARVARD TRADING AGENT COMPETITION

- 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.

Teaching

CS 186: ECONOMICS AND COMPUTATION FALL '11

- Undergraduate course
- Also offered as E-CSCI 186

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

- 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
- New undergraduate course
 - Enrollment: 37
 - CUE overall course rating (5.0 scale): 4.2
 - CUE overall instructor rating (5.0 scale): 4.5

- 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)

- *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.

Funding

- NSF CCF-1101570 *Heuristic Mechanism Design*, '11-'14, \$360,000
- Yahoo! Faculty Research Grant, '09-'10, \$25,000
- Network Science CTA Grant (BBN/Army Research), '10-'14, \$500,000
- Microsoft Research Award for Work on Computational Environment Design, June 2009 \$15,000
- NSF CCF-0915016 *Incentive-Compatible Machine Learning*, '09-'12, \$500,000
- Yahoo! Faculty Research Grant, '07- '08, \$25,000
- Microsoft Research Award, '08- '09, \$117,000
- Department of Defense FA 8721-05-C-0003 (subcontract with CMU) '09-'10, \$75,000
- Department of Defense FA 8721-05-C-0003 (subcontract with CMU)'08-'09, \$75,000
- Alfred P. Sloan Research Fellowship, '05- '07, \$45,000
- NSF DMS-0631636 *Model-Based Unsupervised Learning for Robust Identification of Preferences and Behavior in Network Economies*, '06- '09, \$300,000
- NSF IIS-0534620, *Distributed Implementation: Collaborative Decision Making in Multi-Agent Systems*, '05- '07, \$168,000.
- NSF Career Award IIS-0238147, *Mechanism Design for Resource Bounded Agents: Indirect-Revelation and Strategic Approximations*, '03- '08, \$599,000.
REU Award (Summer '03, '05) \$24,000.
- Federal Aviation Administration Award DTF A0101C00031, *Slot Auctions for US Airports*, '04- '05, \$120,000.
- IBM Faculty Partnership Award, *Decentralized Allocation and Autonomic Computing*, '03- '04, \$40,000
- IBM Faculty Partnership Award, *Multi-attribute Auction Design*, '02- '03, \$40,000
- NASA Ames Research Award, *Collective Intelligence*, '02- '03, \$40,000

Journal Articles

- [1] David C. Parkes. Technical Perspective: Complex Financial Products: Caveat Emptor. *Communications of the ACM*, 54, No. 5:100, 2011.
- [2] David C. Parkes, Ruggiero Cavallo, Florin Constantin, and Satinder Singh. Dynamic Incentive Mechanisms. *Artificial Intelligence Magazine*, 31:79–94, 2010.
- [3] Loizos Michael, David C. Parkes, and Avi Pfeffer. Specifying and Monitoring Economic Environments using Rights and Obligations. *Journal of Autonomous Agents & Multi-Agent Systems*, 20:158–197, 2010.
- [4] Debasis Mishra and David C. Parkes. Multi-Item Vickrey-Dutch Auctions. *Games and Economic Behavior*, 66:326–347, 2009.
- [5] Adam I. Juda and David C. Parkes. An Options-Based Solution to the Sequential Auction Problem. *Artificial Intelligence*, 173:876–899, 2009.
- [6] Pavithra Harsha, Cynthia Barnhart, David C. Parkes, and Haoqi Zhang. Strong Activity Rules for Iterative Combinatorial Auctions. *Computers and Operations Research*, pages 1271–1284, 2009.
- [7] Joan Feigenbaum, David C. Parkes, and David M. Pennock. Computational challenges in e-commerce. *Communications of the ACM*, 52:70–74, 2009.
- [8] Adrian Petcu, Boi Faltings, and David C. Parkes. M-DPOP: Faithful Distributed Implementations of Efficient Social Choice Problems. *Journal of Artificial Intelligence Research*, pages 705–755, 2008.
- [9] David C. Parkes, Michael O. Rabin, Stuart M. Shieber, and Christopher Thorpe. Practical Secrecy-Preserving, Verifiably Correct and Trustworthy Auctions. *Electronic Commerce Research and Applications*, pages 294–312, 2008. Special issue dedicated to ICEC’06.
- [10] Katherine L. Milkman, James Burns, David C. Parkes, Greg Barron, and Kagan Tumer. Testing a Purportedly More Learnable Auction Mechanism. *Applied Economics Research Bulletin*, Special Issue I:106–141, 2008.
- [11] Benjamin Lubin, Adam Juda, Ruggiero Cavallo, Sébastien Lahaie, Jeffrey Shneidman, and David C. Parkes. ICE: An Expressive Iterative Combinatorial Exchange. *Journal of Artificial Intelligence Research*, pages 33–77, 2008.
- [12] Sébastien Lahaie and David C. Parkes. A Modular Framework for Iterative Combinatorial Auctions. *SIGecom Exchanges*, 7.2, 2008.
- [13] Anna Nagurney, David C. Parkes, and Patrizia Daniele. The Internet, Evolutionary Variational Inequalities, and the Time-Dependent Braess Paradox. *Computational Management Science*, 4:355–375, 2007.
- [14] Debasis Mishra and David C. Parkes. Ascending Price Vickrey Auctions for General Valuations. *Journal of Economic Theory*, 132:335–366, 2007.
- [15] Jonathan Bredin, David C. Parkes, and Quang Duong. Chain: A dynamic double auction framework. *Journal of Artificial Intelligence Research*, 30:133–179, 2007.

- [16] Jacomo Corbo, Antoni Calvó-Armengol, and David C. Parkes. A study of Nash equilibrium in contribution games for peer-to-peer networks. *SIGOPS Oper. Syst. Rev.*, 40(3):61–66, 2006.
- [17] David C. Parkes and Jayant Kalagnanam. Models for Iterative Multiattribute Vickrey Auctions. *Management Science*, 51:435–451, 2005. Special Issue on Electronic Markets.
- [18] David C. Parkes. Auction Design with Costly Preference Elicitation. *Annals of Mathematics and AI*, 44:269–302, 2005. Special Issue on the Foundations of Electronic Commerce.
- [19] Anshul Kothari, David C. Parkes, and Subhash Suri. Approximately-strategyproof and tractable multi-unit auctions. *Decision Support Systems*, 39:105–121, 2005. Special issue dedicated to the Fourth ACM Conference on Electronic Commerce (EC’03).
- [20] Rajdeep K. Dash, Nicholas R. Jennings, and David C. Parkes. Computational-Mechanism Design: A Call to Arms. *IEEE Intelligent Systems*, 18:40–47, November 2003. Special Issue on Agents and Markets.
- [21] David C. Parkes and Bernardo A. Huberman. Multiagent cooperative search for portfolio selection. *Games and Economic Behavior*, 35:124–165, 2001.

Book Chapters

- [1] Alvin AuYoung, Phil Buonadonna, Brent N. Chun, Chaki Ng, David C. Parkes, Jeffrey Shneidman, Alex C. Snoeren, and Amin Vahdat. Two Auction-Based Resource Allocation Environments: Design and Experience. In Rajmukar Buyya and Kris Bubendorfer, editors, *Market Oriented Grid and Utility Computing*, chapter 23. Wiley, 2009.
- [2] David C. Parkes. Computational mechanism design. Institute of Mathematical Sciences, University of Singapore, 2008. Lecture notes from Tutorial given at 10th Conf. on Theoretical Aspects of Rationality and Knowledge (TARK-05).
- [3] David C. Parkes. Online mechanisms. In Noam Nisan, Tim Roughgarden, Eva Tardos, and Vijay Vazirani, editors, *Algorithmic Game Theory*, chapter 16. Cambridge University Press, 2007.
- [4] David C. Parkes. Iterative combinatorial auctions. In Peter Cramton, Yoav Shoham, and Richard Steinberg, editors, *Combinatorial Auctions*, chapter 2, pages 94–147. MIT Press, 2006.
- [5] David C. Parkes. On learnable mechanism design. In Kagan Tumer and David Wolpert, editors, *Collectives and the Design of Complex Systems*, chapter 2, pages 107–131. Springer-Verlag, 2004.
- [6] Jayant Kalagnanam and David C Parkes. Auctions, bidding and exchange design. In David Simchi-Levi, S. David Wu, and Max Shen, editors, *Handbook of Quantitative Supply Chain Analysis: Modeling in the E-Business Era*, Int. Series in Operations Research and Management Science, chapter 5. Kluwer, 2004.

Conference Papers

All of the conference proceedings listed below are heavily refereed.

- [1] Jens Witkowski, Sven Seuken, and David C. Parkes. Incentive-Compatible Escrow Mechanisms. In *Proceedings of the 25th AAAI Conference on Artificial Intelligence(AAAI'11)*, 2011.
- [2] Panos Toulis and David C. Parkes. A Random Graph Model of Kidney Exchanges: Efficiency, Individual-Rationality and Incentives. In *Proceedings of the 12th ACM Conference on Electronic Commerce (EC'11)*, pages 323–332, 2011.
- [3] Sven Seuken, David C. Parkes, Eric Horvitz, Kamal Jain, Mary Czerwinski, and Desney Tan. Market User Interface Design. In *Proceedings of the Second Conference on Auctions, Market Mechanisms and Their Applications (AMMA)*, 2011.
- [4] Valentin Robu, Sebastian Stein, Enrico H. Gerding, David C. Parkes, Alex Rogers, and Nicholas R. Jennings. An Online Mechanism for Multi-Speed Electric Vehicle Charging. In *Proceedings of the Second Conference on Auctions, Market Mechanisms and Their Applications (AMMA)*, 2011.
- [5] Paul Duetting and Felix Fischer and David C. Parkes. Simplicity-Expressiveness Tradeoffs in Mechanism Design. In *Proceedings of the 12th ACM Conference on Electronic Commerce (EC'11)*, pages 341–350, 2011.
- [6] Enrico H. Gerding, Valentin Robu, Sebastian Stein, David C. Parkes, Alex Rogers, and Nicholas R. Jennings. Online mechanism design for electric vehicle charging. In *Proceedings of the 10th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'11)*, pages 811–818, 2011.
- [7] Florin Constantin, Malvika Rao, Chien-Chung Huang, and David C. Parkes. On Expressing Value Externalities in Position Auctions. In *Proceedings of the 25th AAAI Conference on Artificial Intelligence(AAAI'11)*, 2011.
- [8] Yuga Cohler, John Lai, David C. Parkes, and Ariel D. Procaccia. Optimal Envy-Free Cake Cutting. In *Proceedings of the 25th AAAI Conference on Artificial Intelligence(AAAI'11)*, 2011.
- [9] Yiling Chen, Jerry Kung, David C. Parkes, Ariel Procaccia, and Haoqi Zhang. Incentive Design for Adaptive Agents. In *Proceedings of the 10th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'11)*, 2011.
- [10] James Zou, Sujit Gujar, and David C. Parkes. Tolerable Manipulability in Dynamic Assignment without Money. In *Proceedings 24th AAAI Conference on Artificial Intelligence (AAAI '10)*, pages 947–952, 2010.
- [11] William Walsh, Tuomas Sandholm, Craig Boutilier, Rob Shields, George Nemhauser, and David C. Parkes. Automated Channel Abstraction for Advertising Auctions. In *Proceedings 24th AAAI Conference on Artificial Intelligence (AAAI '10)*, pages 887–894, 2010.
- [12] Jie Tang, Sven Seuken, and David C. Parkes. Hybrid Transitive Trust Mechanisms. In *International Conference on Autonomous Agents and Multiagent Systems (AAMAS'10)*, pages 233–240, 2010.

- [13] Sven Seuken, Jie Tang, and David C. Parkes. Accounting Mechanisms for Distributed Work Systems. In *Proceedings 24th AAAI Conference on Artificial Intelligence (AAAI '10)*, pages 860–866, 2010.
- [14] Sven Seuken, Kamal Jain, and David C. Parkes. Hidden Market Design. In *Proceedings 24th AAAI Conference on Artificial Intelligence (AAAI '10)*, pages 1498–1503, 2010.
- [15] Sujit Gujar and David C. Parkes. Dynamic Matching with a Fall-Back Option. In *Proceedings of the 19th European Conference on Artificial Intelligence (ECAI'10)*, pages 263–268, 2010.
- [16] Yiling Chen, John K. Lai, David C. Parkes, and Ariel D. Procaccia. Truth, Justice and Cake Cutting. In *Proceedings 24th AAAI Conference on Artificial Intelligence (AAAI '10)*, pages 756–761, 2010.
- [17] Haoqi Zhang, David C. Parkes, and Yiling Chen. Policy Teaching Through Reward Function Learning. In *10th ACM Electronic Commerce Conference (EC'09)*, pages 295–304, 2009.
- [18] Haoqi Zhang, Yiling Chen, and David C. Parkes. A General Approach to Environment Design with One Agent. In *Twenty-First International Joint Conference on Artificial Intelligence (IJCAI-09)*, pages 2002–2009, 2009.
- [19] Christopher Thorpe and David C. Parkes. Cryptographic Combinatorial Securities Exchanges. In *Financial Cryptography and Data Security (FC'09)*, pages 285–304, 2009.
- [20] David C. Parkes, Michael O. Rabin, and Christopher Thorpe. Cryptographic Combinatorial Clock-Proxy Auctions. In *Financial Cryptography and Data Security (FC'09)*, pages 305–324, 2009.
- [21] David C. Parkes. When Analysis Fails: Heuristic Mechanism Design via Self-Correcting Procedures. In *Proc. 35th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM'09)*, pages 62–66, 2009.
- [22] Shien Jin Ong, David C. Parkes, Alon Rosen, and Salil Vadhan. Fairness with an Honest Minority and a Rational Majority. In *Sixth Theory of Cryptography Conference (TCC 2009)*, pages 36–53, 2009.
- [23] Benjamin Lubin, David C. Parkes, Jeff Kephart, and Rajarshi Das. Expressive Power-Based Resource Allocation for Data Centers. In *Twenty-First International Joint Conference on Artificial Intelligence (IJCAI-09)*, pages 1451–1456, 2009.
- [24] Benjamin Lubin and David C. Parkes. Quantifying the Strategyproofness of Mechanisms via Metrics on Payoff Distributions. In *25th Conference on Uncertainty in Artificial Intelligence*, pages 349–358, 2009.
- [25] Sebastien Lahaie and David C. Parkes. Fair Package Assignment. In *Proc. First Conf. on Auctions, Market Mechanisms and Their Applications (AMMA 2009)*, 2009.
- [26] Shaili Jain, Yiling Chen, and David C. Parkes. Designing Incentives for Online Question and Answers Forums. In *10th ACM Electronic Commerce Conference (EC'09)*, pages 129–138, 2009.
- [27] Julien Freudiger, Mohammed Hossein Manshaei, Jean-Pierre Hubaux, and David C. Parkes. On Non-Cooperative Location Privacy: A Game-Theoretic Analysis. In *16th ACM Conference on Computer and Communications Security*, pages 324–337, 2009.

- [28] Jacomo Corbo, Shaili Jain, Michael Mitzenmacher, and David C. Parkes. An Economically-Principled Generative Model of AS Graph Connectivity. In *IEEE INFOCOM Mini-Conference*, 2009.
- [29] Florin Constantin and David C. Parkes. Self-Correcting Sampling-Based Dynamic Multi-Unit Auctions. In *10th ACM Electronic Commerce Conference (EC'09)*, pages 89–98, 2009.
- [30] Haoqi Zhang and David C. Parkes. Value-Based Policy Teaching with Active Indirect Elicitation. In *Proc. 23rd National Conference on Artificial Intelligence (AAAI'08)*, pages 208–214, 2008.
- [31] William Walsh, David C. Parkes, Tuomas Sandholm, and Craig Boutilier. Computing Reserve Prices and Identifying the Value Distribution in Real-world Auctions with Market Dynamics. In *Proc. 23rd National Conference on Artificial Intelligence (AAAI'08)*, pages 1499–1502, 2008.
- [32] Sven Seuken, Ruggiero Cavallo, and David C. Parkes. Partially Synchronized DEC-MDPs in Dynamic Mechanism Design. In *Proc. 23rd National Conference on Artificial Intelligence (AAAI'08)*, pages 162–169, 2008.
- [33] Erik Schultink, Ruggiero Cavallo, and David C. Parkes. Economic Hierarchical Q-Learning. In *Proc. 23rd National Conference on Artificial Intelligence (AAAI'08)*, pages 689–695, 2008.
- [34] Sébastien M. Lahaie, David C. Parkes, and David Pennock. On the Communication Requirements of Verifying the VCG Outcome. In *Proc. 9th ACM Conference on Electronic Commerce (EC'08)*, pages 108–113, 2008.
- [35] Sébastien M. Lahaie, David C. Parkes, and David Pennock. An Expressive Auction Design for Online Display Advertising. In *Proc. 23rd National Conference on Artificial Intelligence (AAAI'08)*, pages 108–113, 2008.
- [36] Mark Klein, Gabriel A. Moreno, David C. Parkes, Daniel Plakosh, Sven Seuken, and Kurt C. Wallnau. Handling interdependent values in an auction mechanism for bandwidth allocation in tactical data networks. In *Proc. ACM SIGCOMM 2008 Workshop on Economics of Networked Systems (NetEcon 2008)*, pages 73–78, 2008.
- [37] Shaili Jain and David C. Parkes. A Game-Theoretic Analysis of Games with a Purpose. In *4th International Workshop on Internet and Network Economics (WINE 2008)*, pages 342–350, 2008.
- [38] Sevan Ficici, David C. Parkes, and Avi Pfeffer. Learning and Solving Many-Player Games through a Cluster-Based Representation. In *Proc. 24th Conference on Uncertainty in Artificial Intelligence (UAI'08)*, pages 187–195, 2008.
- [39] Ruggiero Cavallo and David C. Parkes. Efficient Metadeliberation Auctions. In *Proc. 23rd National Conference on Artificial Intelligence (AAAI'08)*, 2008.
- [40] Craig Boutilier, David C. Parkes, Tuomas Sandholm, and William Walsh. Expressive Banner Ad Auctions and Model-Based Online Optimization for Clearing. In *Proc. 23rd National Conference on Artificial Intelligence (AAAI'08)*, pages 30–37, 2008.
- [41] Christopher Thorpe and David C. Parkes. Cryptographic Securities Exchanges. In *Proc. 11th International Conference on Financial Cryptography and Data Security*, pages 163–178, 2007.

- [42] David C. Parkes and Quang Duong. An Ironing-Based Approach to Adaptive Online Mechanism Design in Single-Valued Domains. In *Proc. 22nd National Conference on Artificial Intelligence (AAAI'07)*, pages 94–101, 2007.
- [43] Florin Constantin, Takayuki Ito, and David C. Parkes. Online auctions for bidders with interdependent values. In *Proc. 6th International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS'07)*, short paper, Honolulu, Hawaii, May 2007.
- [44] Adrian Petcu, Boi Faltings, and David C. Parkes. MDPOP: Faithful distributed implementation of efficient social choice problems. In *Proc. 5th International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS'06)*, pages 1397–1404, 2006.
- [45] David C. Parkes, Michael O. Rabin, Stuart M. Shieber, and Christopher Thorpe. Practical secrecy-preserving, verifiably correct and trustworthy auctions. In *Proc. 8th International Conference on Electronic Commerce (ICEC'06)*, pages 70–81, 2006.
- [46] Laura Kang and David C. Parkes. Passive verification of strategyproof mechanisms in open environments. In *Proc. 8th International Conference on Electronic Commerce (ICEC'06)*, pages 19–30, 2006.
- [47] Adam I. Juda and David C. Parkes. The sequential auction problem on eBay: An empirical analysis and a solution. In *Proc. 7th ACM Conference on Electronic Commerce (EC'06)*, pages 180–189, 2006.
- [48] Takayuki Ito and David C. Parkes. Instantiating the contingent bids model of truthful interdependent value auctions. In *Proc. 5th International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS'06)*, pages 1151–1158, 2006. **Best paper award.**
- [49] Ruggiero Cavallo, David C. Parkes, and Satinder Singh. Optimal coordinated planning amongst self-interested agents with private state. In *Proc. 22nd Conference on Uncertainty in Artificial Intelligence (UAI'2006)*, pages 55–62, Cambridge, MA, 2006.
- [50] David C. Parkes, Ruggiero Cavallo, Nick Elprin, Adam I. Juda, Sébastien M. Lahaie, Benjamin Lubin, Loizos Michael, Jeffrey Shneidman, and Hassan Sultan. ICE: An iterative combinatorial exchange. In *Proc. 6th ACM Conference on Electronic Commerce (EC'05)*, pages 249–258, 2005.
- [51] Geoff Mainland, David C. Parkes, and Matt Welsh. Adaptive resource allocation for sensor networks. In *Proc. 2nd USENIX/ACM Symposium on Networked Systems Design and Implementation (NSDI 2005)*, 2005.
- [52] Sébastien M. Lahaie, Florin Constantin, and David C. Parkes. More on the power of demand queries in combinatorial auctions: Learning atomic languages and handling incentives. In *Proc. 19th International Joint Conference on Artificial Intelligence (IJCAI'05)*, pages 959–964, 2005.
- [53] Mohammad T. Hajiaghayi, Robert Kleinberg, Mohammad Mahdian, and David C. Parkes. Online auctions with re-usable goods. In *Proc. 6th ACM Conference on Electronic Commerce (EC'05)*, pages 165–174, 2005.

- [54] Jacomo Corbo and David C. Parkes. The price of selfish behavior in bilateral network formation. In *Proc. 24rd ACM Symposium on Principles of Distributed Computing (PODC'05)*, pages 99–107, 2005.
- [55] Jonathan Bredin and David C. Parkes. Models for truthful online double auctions. In *Proc. 21st Conference on Uncertainty in Artificial Intelligence (UAI'2005)*, pages 50–59, 2005.
- [56] Jeffrey Shneidman and David C. Parkes. Specification faithfulness in networks with rational nodes. In *Proc. 23rd ACM Symposium on Principles of Distributed Computing (PODC'04)*, pages 88–97, St. John's, Canada, 2004.
- [57] David C. Parkes, Satinder Singh, and Dimah Yanovsky. Approximately efficient online mechanism design. In *Proc. 18th Annual Conference on Neural Information Processing Systems (NIPS'04)*, 2004.
- [58] David C. Parkes and Jeffrey Shneidman. Distributed implementations of Vickrey-Clarke-Groves mechanisms. In *Proc. 3rd International Joint Conference on Autonomous Agents and Multi Agent Systems (AAMAS'04)*, pages 261–268, 2004.
- [59] David C. Parkes and Grant Schoenebeck. Growrange: Anytime VCG-Based Mechanisms. In *Proc. 19th National Conference on Artificial Intelligence (AAAI-04)*, pages 34–41, 2004.
- [60] Sébastien M. Lahaie and David C. Parkes. Applying learning algorithms to preference elicitation. In *Proc. 5th ACM Conference on Electronic Commerce (EC'04)*, pages 180–188, May 2004.
- [61] Mohammad T. Hajiaghayi, Robert Kleinberg, and David C. Parkes. Adaptive limited-supply online auctions. In *Proc. 5th ACM Conference on Electronic Commerce (EC'04)*, pages 71–80, 2004.
- [62] Aditya V. Sunderam and David C. Parkes. Preference elicitation in proxied multiattribute auctions. In *Proc. 4th ACM Conference on Electronic Commerce (EC'03)*, short paper, pages 214–215, 2003.
- [63] Jeffrey Shneidman and David C. Parkes. Using redundancy to improve robustness of distributed mechanism implementations. In *Proc. 4th ACM Conference on Electronic Commerce (EC'03)*, short paper, pages 276–277, 2003.
- [64] David C. Parkes and Satinder Singh. An MDP-Based approach to Online Mechanism Design. In *Proc. 17th Annual Conference on Neural Information Processing Systems (NIPS'03)*, 2003.
- [65] Chaki Ng, David C. Parkes, and Margo Seltzer. Virtual Worlds: Fast and Strategyproof Auctions for Dynamic Resource Allocation. In *Proc. 4th ACM Conference on Electronic Commerce (EC'03)*, short paper, pages 238–239, 2003.
- [66] Anshul Kothari, David C. Parkes, and Subhash Suri. Approximately-strategyproof and tractable multi-unit auctions. In *Proc. 4th ACM Conference on Electronic Commerce (EC'03)*, pages 166–175, 2003.
- [67] Eric Friedman and David C. Parkes. Pricing WiFi at Starbucks— Issues in online mechanism design. In *Proc. 4th ACM Conference on Electronic Commerce (EC'03)*, short paper, pages 240–241, 2003.

- [68] David C. Parkes and Lyle H. Ungar. An auction-based method for decentralized train scheduling. In *Proc. 5th International Conference on Autonomous Agents (AGENTS-01)*, pages 43–50, 2001.
- [69] David C. Parkes, Jayant R. Kalagnanam, and Marta Eso. Achieving budget-balance with Vickrey-based payment schemes in exchanges. In *Proc. 17th International Joint Conference on Artificial Intelligence (IJCAI-01)*, pages 1161–1168, 2001.
- [70] David C. Parkes and Lyle H. Ungar. Preventing strategic manipulation in iterative auctions: Proxy agents and price-adjustment. In *Proc. 17th National Conference on Artificial Intelligence (AAAI-00)*, pages 82–89, 2000.
- [71] David C. Parkes and Lyle H. Ungar. Iterative combinatorial auctions: Theory and practice. In *Proc. 17th National Conference on Artificial Intelligence (AAAI-00)*, pages 74–81, 2000.
- [72] David C. Parkes. iBundle: An efficient ascending price bundle auction. In *Proc. 1st ACM Conference on Electronic Commerce (EC-99)*, pages 148–157, 1999.

Workshop Papers

All of the workshop proceedings listed below are lightly refereed.

- [1] Haoqi Zhang, Eric Horvitz, Rob C. Miller, and David C. Parkes. Crowdsourcing General Computation. In *Proceedings of the CHI 2011 Workshop on Crowdsourcing and Human Computation*, 2011.
- [2] Haoqi Zhang, Eric Horvitz, Yiling Chen, and David C. Parkes. Task Routing for Prediction Tasks. In *Proceedings of the EC'11 Workshop on Social Computing and User Generated Content*, 2011.
- [3] Jens Witkowski and David C. Parkes. Peer Prediction with Private Beliefs. In *Proceedings of the Workshop on Social Computing and User Generated Content*, 2011.
- [4] Sven Seuken and David C. Parkes. On the Sybil-Proofness of Accounting Mechanisms. In *Proceedings of the 6th Workshop on the Economics of Networks, Systems, and Computation (NetEcon'11)*, 2011.
- [5] Ian Kash, Rohan Murty, and David C. Parkes. Enabling Spectrum Sharing in Secondary Market Auctions. In *Proceedings of the 6th Workshop on the Economics of Networks, Systems, and Computation (NetEcon'11)*, 2011.
- [6] Shaili Jain and David C. Parkes. Combinatorial Agency of Threshold Functions. In *Proceedings of the EC'11 Workshop on Social Computing and User Generated Content*, 2011.
- [7] Mark Klein, Gabriel A. Moreno, David C. Parkes, and Kurt Wallnau. Designing for incentives: better information sharing for better software engineering. In *Proceedings of the FSE/SDP workshop on Future of software engineering research (FoSER '10)*, pages 195–199, 2010.
- [8] Ian Kash and David C. Parkes. Impersonation Strategies in Auctions (Short Paper). In *Proceedings of the Sixth Workshop on Internet and Network Economics (WINE'10)*, 2010.

- [9] Eric Huang, Haoqi Zhang, David C. Parkes, Krzysztof Z. Gajos, and Yiling Chen. Toward Automatic Task Design: A Progress Report. In *Proceedings of the Second Human Computation Workshop*, 2010.
- [10] Florin Constantin, Malvika Rao, Chien-Chung Huang, and David C. Parkes. On Expressing Value Externalities in Position Auctions. In *Proceedings of the 6th Ad Auctions Workshop*, 2010.
- [11] David F. Bacon, Eric Bokelberg, Yiling Chen, Ian A. Kash, David C. Parkes, Malvika Rao, and Manu Sridharan. Software economies. In *Proceedings of the FSE/SDP workshop on Future of software engineering research (FoSER '10)*, 2010.
- [12] William E. Walsh, Craig Boutilier, Tuomas Sandholm, Rob Shields, George Nemhauser, and David C. Parkes. Automated Channel Abstraction for Advertising Auctions. In *Proceedings of the Ad Auctions Workshop*, 2009.
- [13] Shaili Jain and David C. Parkes. The Role of Game Theory in Human Computation Systems. In *Human Computation Workshop (KDD-HCOMP'09)*, 2009.
- [14] David F. Bacon, Yiling Chen, David C. Parkes, and Malvika Rao. A Market-Based Approach to Software Evolution. In *ACM Onward! Conference*, 2009.
- [15] Haoqi Zhang and David C. Parkes. Enabling Environment Design via Active Indirect Elicitation. In *4th Multidisciplinary Workshop on Advances in Preference Handling (MRPERF'08)*, 2008.
- [16] Qicheng Ma, David C. Parkes, and Matt Welsh. A Utility-Based Approach to Bandwidth Allocation and Link Scheduling in Wireless Networks. In *Proc. 1st. International Workshop on Agent Technology for Sensor Networks (ATSN-07)*, Honolulu, Hawaii, 2007.
- [17] Laura Kang and David C. Parkes. A Decentralized Auction Framework to Promote Efficient Resource Allocation in Open Computational Grids. In *Proc. Joint Workshop on The Economics of Networked Systems and Incentive-Based Computing (NetEcon-IBC)*, San Diego, CA, 2007.
- [18] R. Kang-Xing Jin, David C. Parkes, and Patrick J. Wolfe. Analysis of Bidding Networks in eBay: Aggregate Preference Identification through Community Detection. In *Proc. AAAI Workshop on Plan, Activity and Intent Recognition (PAIR)*, Vancouver, Canada, 2007.
- [19] Jacomo Corbo, Shaili Jain, Michael Mizenmacher, and David C. Parkes. An Economically Principled Generative Model of AS Graph Connectivity. In *Proc. Joint Workshop on The Economics of Networked Systems and Incentive-Based Computing (NetEcon-IBC)*, San Diego, CA, 2007.
- [20] Jacomo Corbo, Antoni Calvó-Armengol, and David C. Parkes. The Importance of Network Topology in Local Contribution Games. In *Workshop on Internet and Networks Economics (WINE)*, 2007. Short paper.
- [21] Florin Constantin and David C. Parkes. On Revenue-Optimal Dynamic Auctions for Bidders with Interdependent Values. In *Proc. Workshop on Agent Mediated Electronic Commerce IX (AMEC'IX)*, Honolulu, Hawaii, 2007.

- [22] Ruggiero Cavallo, David C. Parkes, and Satinder Singh. Efficient Online Mechanisms for Persistent, Periodically Inaccessible Self-Interested Agents. In *DIMACS Workshop on The Boundary between Economic Theory and Computer Science*, New Brunswick, NJ, 2007.
- [23] Loizos Michael, David C. Parkes, and Avi Pfeffer. Specifying and Monitoring Market Mechanisms using Rights and Obligations. In *Agent Mediated Electronic Commerce VI*, number 3435 in Lecture Notes in Computer Science. Springer Verlag, 2006. Revised Papers from AAMAS'04 workshop, New York NY.
- [24] Adam I. Juda and David C. Parkes. Mechanisms for Options: Solving the Composability Problem. In *Agent Mediated Electronic Commerce VI*, number 3435 in Lecture Notes in Computer Science. Springer Verlag, 2006. Revised Papers from AAMAS'04 workshop, New York NY.
- [25] Boi Faltings, David C. Parkes, Adrian Petcu, and Jeffrey Shneidman. Optimizing streaming applications with self-interested users using MDPOP. In *Proc. International Workshop on Computational Social Choice (COMSOC'06)*, Amsterdam, The Netherlands, 2006.
- [26] Ruggiero Cavallo, David C. Parkes, and Satinder Singh. Optimal Coordination of Loosely-Coupled Self-Interested Robots. In *Proc. AAI Workshop on Auction Mechanisms for Robot Coordination*, Boston, MA, 2006.
- [27] John Brunelle, Peter Hurst, John Huth, Laura Kang, Chaki Ng, David C. Parkes, Margo Seltzer, Jim Shank, and Saul Youssef. Egg: An Extensible and Economics-Inspired Open Grid Computing Platform. In *Proc. 3rd International Workshop on Grid Economics and Business Models (GECON'06)*, Singapore, 2006.
- [28] Jeffrey Shneidman, Chaki Ng, David C. Parkes, Alvin AuYoung, Alex C. Snoeren, Amin Vahdat, and Brent Chun. Why Markets Could (But Don't Currently) Solve Resource Allocation Problems in Systems. In *Proc. 10th Workshop on Hot Topics in Operating Systems (HotOS-X)*, Santa Fe, NM, 2005.
- [29] David C. Parkes and Tuomas Sandholm. Optimize-and-Dispatch Architecture for Expressive Ad Auctions. In *Proc. 1st Workshop on Sponsored Search Auctions (SS'05)*, Vancouver, Canada, 2005.
- [30] Florin Constantin and David C. Parkes. Preference-Based Characterizations of Truthfulness and the Limited Expressiveness of Order-Based Domains. In *Proc. IJCAI Workshop on Preference Handling*, Edinburgh, Scotland, 2005.
- [31] Ruggiero Cavallo, David C. Parkes, Adam I. Juda, Adam Kirsch, Alex Kulesza, Sébastien M. Lahaie, Benjamin Lubin, Loizos Michael, and Jeffrey Shneidman. TBBL: A Tree-Based Bidding Language for Iterative Combinatorial Exchanges. In *Proc. IJCAI Multidisciplinary Workshop on Advances in Preference Handling*, Edinburgh, Scotland, 2005.
- [32] Brent N. Chun and Philip Buonadonna and Alvin AuYoung and Chaki Ng and David C. Parkes and Jeffrey Shneidman and Alex C. Snoeren and Amin Vahdat. Mirage: A microeconomic resource allocation system for sensornet testbeds. In *Proc. 2nd IEEE Workshop on Embedded Networked Sensors (EmNetsII)*, 2005.
- [33] William E. Walsh, David C. Parkes, and Rajarshi Das. Choosing Samples to Compute Nash Equilibrium with Respect to *Ex Ante* Payoffs. In *Agent Mediated Electronic Commerce V*,

- volume 3048 of *Lecture Notes in Computer Science*. Springer Verlag, 2004. Revised Papers from AAMAS'03 workshop, Melbourne Australia.
- [34] Jeffrey Shneidman, David C. Parkes, and Laurent Massoulié. Faithfulness in Internet Algorithms. In *Proc. SIGCOMM Workshop on Practice and Theory of Incentives and Game Theory in Networked Systems*, Portland, USA, 2004.
 - [35] Geoff Mainland, Laura Kang, Sébastien M. Lahaie, David C. Parkes, and Matt Welsh. Using Virtual Markets to Program Global Behavior in Sensor Networks. In *Proc. 11th ACM SIGOPS European Workshop*, Leuven, Belgium, 2004.
 - [36] Sébastien M. Lahaie and David C. Parkes. Applying Learning Algorithms to Preference Elicitation in Combinatorial Auctions. In *Proc. Stanford Institute for Theoretical Economics Workshop on Bounded Rationality in the Design of Markets and Organizations*, Stanford, CA, 2004.
 - [37] Rui Dong, Terry Tai, Wilfred Yeung, and David C. Parkes. HarTAC— The Harvard TAC SCM'03 agent. In *Proc. 2nd Workshop on Trading Agent Design and Analysis (TADA'04)*, pages 1–8, New York, NY, 2004.
 - [38] Jason Woodard and David C. Parkes. Strategyproof Mechanisms for *Ad Hoc* Network Formation. In *Proc. 1st Workshop on Economics of Peer-to-Peer Systems (P2PECON'03)*, Berkeley, CA, 2003.
 - [39] Jeffrey Shneidman and David C. Parkes. Rationality and Self-Interest in Peer to Peer Networks. In *Proc. 2nd International Workshop on Peer-to-Peer Systems (IPTPS'03)*, 2003.
 - [40] David C. Parkes. Five AI challenges in Strategyproof Computing. In *Proc. IJCAI'03 Workshop on Autonomic Computing*, Acapulco, Mexico, 2003.
 - [41] Chaki Ng, David C. Parkes, and Margo Seltzer. Strategyproof Computing: Systems infrastructures for self-interested parties. In *Proc. 1st Workshop on Economics of Peer-to-Peer Systems (P2PECON'03)*, Berkeley, CA, 2003.
 - [42] James Aspnes, Joan Feigenbaum, Michael Mitzenmacher, and David C. Parkes. Towards Better Definitions and Measures of Internet Security (Position Paper). In *Proc. Workshop on Large-Scale-Network Security and Deployment Obstacles*, Landsdowne VA, 2003.
 - [43] David C. Parkes and Lyle H. Ungar. An Ascending-Price Generalized Vickrey Auction. In *Proc. Stanford Institute for Theoretical Economics Workshop on The Economics of the Internet*, Stanford, CA, 2002.
 - [44] David C. Parkes. Price-based information certificates for minimal-revelation combinatorial auctions. In *Agent Mediated Electronic Commerce IV: Designing Mechanisms and Systems*, volume 2531 of *Lecture Notes in Computer Science*, pages 103–122. Springer, 2002. Revised Papers from AAMAS'02 workshop, Bologna Italy.
 - [45] David C. Parkes. Challenge problem: Agent-Mediated Decentralized Information Mechanisms. In *Proc. AAMAS Workshop on AgentCities: Challenges in Open Agent Environments*, Bologna, Italy, 2002.

- [46] David C. Parkes and Lloyd G. Greenwald. Approximate and Compensate: A method for risk-sensitive meta-deliberation and continual computation. In *Proc. AAAI Fall Symposium on Using Uncertainty within Computation*, pages 101–108, North Falmouth, MA, 2001.
- [47] David C. Parkes. An iterative generalized Vickrey auction: Strategy-proofness without complete revelation. In *Proc. AAAI Spring Symposium on Game Theoretic and Decision Theoretic Agents (GTDT'01)*, Stanford, CA, 2001.
- [48] David C. Parkes. Optimal Auction Design for Agents with Hard Valuation Problems. In Alexandros Moukas, Carles Sierra, and Fredrik Ygge, editors, *Proc. Workshop on Agent Mediated Electronic Commerce II (AMEC'II)*, volume 1788 of *Lecture Notes in Computer Science*, pages 206–219. Springer, 2000. Revised Papers.
- [49] David C. Parkes, Lyle H. Ungar, and Dean P. Foster. Accounting for cognitive costs in on-line auction design. In Pablo Noriega and Carles Sierra, editors, *Proc. Workshop on Agent Mediated Electronic Commerce (AMET'98)*, volume 1571 of *Lecture Notes in Computer Science*, pages 25–40. Springer, 1999. Revised Papers.
- [50] David C. Parkes and Bernardo A. Huberman. Multiagent cooperative search for portfolio selection. In *Proc. AGENTS Workshop on Artificial Societies and Computational Markets.*, Minneapolis, MN, 1998.
- [51] David C. Parkes and Lyle H. Ungar. Learning and Adaptation in Multiagent Systems. In *Proc. AAAI Workshop on Multiagent Learning*, Providence, RI, 1997.

Edited Collections and Special Issues

- [1] Simon Parsons, Joerg Mueller, David C. Parkes, and Lin Padgham, editors. *Proceedings 7th International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS'08)*. ACM, 2008.
- [2] David C. Parkes and Moshe Tennenholtz, editors. *Special issue Dedicated to the ACM Conference on Electronic Commerce (EC'07)*. Games and Economic Behavior. Elsevier, 2009.
- [3] David C. Parkes, editor. *Special Issue Dedicated to the ACM Conference on Electronic Commerce (EC'03)*, volume 39(1) of *Decision Support Systems*. Elsevier, 2005.
- [4] Julian A. Padget, David C. Parkes, Norman M. Sadeh, Onn Shehory, and William E. Walsh, editors. *Agent Mediated Electronic Commerce IV: Designing Mechanisms and Systems, AAMAS 2002 Workshop*, volume 2531 of *Lecture Notes in Artificial Intelligence*. Springer-Verlag, 2002.
- [5] Jeffrey K. MacKie-Mason, David C. Parkes, and Paul Resnick, editors. *Proceedings 8th ACM Conference on Electronic Commerce (EC-2007)*. ACM, 2007.
- [6] Peyman Faratin, David C. Parkes, Juan A. Rodriguez-Aguilar, and William E Walsh, editors. *Agent Mediated Electronic Commerce V*, volume 3048 of *Lecture Notes in Artificial Intelligence*. Springer-Verlag, 2004.
- [7] Anand Anandalingam, Jayant Kalagnanam, David C. Parkes, Michael Rothkopf, and Tuomas Sandholm, editors. *Special Issue on Electronic Markets*, volume 51(3) of *Management Science*. INFORMS, 2005.

Unrefereed Papers

- [1] David C. Parkes. Promoting Sustainability: Exploring the Role of Expressive, Indirect, and Hidden Markets. In *2nd International Conference on Computational Sustainability (CompSust'10)*, Cambridge, MA, June 2010.

Technical Reports

- [1] Ruggiero Cavallo, David C. Parkes, and Satinder Singh. Efficient Mechanisms with Dynamic Populations and Dynamic Types. Technical report, Harvard University, 2010.
- [2] Saurabh Sanghvi and David C. Parkes. Hard-to-Manipulate VCG-Based Auctions. Technical report, Harvard University, Jan. 2004.
- [3] David C. Parkes. On Indirect and Direct Implementations of Core Outcomes in Combinatorial Auctions. Technical report, Harvard University, Sept. 2002.
- [4] Chaki Ng, David C. Parkes, and Margo Seltzer. Virtual Worlds: Fast and strategyproof auctions for dynamic resource allocation. Technical report, Harvard University, Nov. 2002.
- [5] David C. Parkes, Jayant Kalagnanam, and Marta Eso. Achieving Budget-Balance with Vickrey-Based Payment Schemes in Combinatorial Exchanges. Technical Report RC 22218, IBM Research Report, Oct. 2001.

Invited Tutorials

- [1] *Market-Oriented Techniques*. America's School on Agents, Columbia University, New York NY, July 2004.
- [2] *Computational Mechanism Design with Applications to E-Commerce and Planning*. 23rd National Conference on Artificial Intelligence (AAAI'08), Chicago, IL, July 2008.
- [3] *Computational Mechanism Design and Auctions*. 10th Conference on the Theoretical Aspects of Rationality and Knowledge, National University of Singapore, Singapore, June 2005.
- [4] *Computational Mechanism Design and Auctions*. 18th Annual Neural Information Processing Conference, Vancouver, Canada, December 2004.
- [5] *Computational Mechanism Design*. 5th Americas School on Agents and Multiagent Systems, Harvard University, Cambridge MA, July 2006.
- [6] *Computational Issues in Auction Design*. 4th ACM Conference on Electronic Commerce (EC'03), San Diego, CA, June 2003.

Invited Talks and Panel Participation at Conferences

- [1] Approximate Incentive Compatibility in Combinatorial Exchanges. *9th Annual International Industrial Organization Conference, Boston, MA*, April 2011.

- [2] Promoting Sustainability: Exploring the Role of Expensive, Indirect, and Hidden Markets. *2nd International Conference on Computational Sustainability (CompSust10) Cambridge, MA*, June 2010.
- [3] The Interplay of Machine Learning and Mechanism Design. **Plenary speaker**, *Neural Information Processing Systems Foundation (NIPS '10), Vancouver, B.C., Canada*, December 2010.
- [4] Incentive Engineering in the Internet Age. **Plenary speaker**, *The Twenty-Fourth AAAI Conference on Artificial Intelligence (AAAI '10), Atlanta, GA*, July 2010.
- [5] 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.
- [6] **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.
- [7] Self-Correcting Sampling-Based Dynamic Multi-Unit Auctions. *Conference on Economic Design 2009, Maastricht, The Netherlands*, June 2009.
- [8] 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.
- [9] Computational Ironing to Achieve Monotonicity in Dynamic Mechanisms. **Plenary Speaker**, *The 18th International Conference on Game Theory, Stonybrook NY*, July 2007.
- [10] Computational Mechanism Design: An AI Agenda. **Plenary Speaker**, *The 17th Belgian-Dutch Conference on Artificial Intelligence, Brussels, Belgium*, October 2005.
- [11] **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.
- [12] 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.
- [13] Incremental Revelation in Computational Mechanisms. *American Association for the Advancement of Science Annual Meeting, Denver CO*, February 2003.
- [14] Towards Iterative Combinatorial Exchanges. *3rd FCC Conference on Combinatorial Auctions, Aspen Institute's Wye River Conference Center, Queenstown MD*, November 2003.
- [15] **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.
- [16] **Panel:** Agents and Electronic Commerce. In *2nd International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS'03)*, Melbourne, Australia, July 2003.

- [17] Computational Mechanism Design in the Supply Chain. **Plenary Speaker**, *International Conference on Supply-Chain Management and Electronic Commerce, Beijing, China, August 2002.*
- [18] **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.
- [19] 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] The Interplay of Machine Learning and Mechanism Design. *Indo-US Symposium on New Directions in ML, Game Theory and Optimization, Bangalore, India, November 2010.*
- [2] Preferences, Incentives, and Mechanism Design. *NSF Workshop on Engineered Systems Design, Arlington, VA, February 2010.*
- [3] Mechanism Design and Accounting to Enable Efficient Peer Production and Spectrum Sharing. *CFEM Inauguration, Aarhus University, Aarhus, Denmark, October 2010.*
- [4] **Panel:** Optimization in Multi-Agent Systems. In *AAMAS '10 Workshop*, Toronto, Canada, May 2010.
- [5] Heuristic Mechanism Design. *NSF Computer Science and Economics Workshop, Ithaca, NY, September 2009.*
- [6] Heuristic Mechanism Design. *BRICKS Workshop on Game Theory and Multiagent Systems, Amsterdam, The Netherlands, June 2009.*
- [7] Dynamic Mechanism Design. *Workshop on Networks, Auctions, and Pricing, Cambridge, UK, June 2009.*
- [8] Self-Correcting Sampling-Based Dynamic Multi-Unit Auctions. *Workshop on Information and Dynamic Mechanism Design, Hausdorff Institute, Bonn, Germany, June 2009.*
- [9] Dynamic mechanisms for Distributed Coordination: Models and Methods. *CMS-EMS Workshop on Dynamic Mechanism Design, Kellogg School, Northwestern University, Evanston IL, May 2008.*
- [10] Economic paradigms for the Control of Network Behavior. *AFOSR Complex Networks Workshop, Arlington VA, May 2007.*
- [11] Combinatorial Markets in the Supply Chain. *NSF Workshop on Collaborative Logistics, Georgia Tech., Atlanta GA, September 2007.*
- [12] **Panel:** Future Directions in Agent-Mediated Electronic Commerce. In *AAMAS Workshop on Agent-Mediated Electronic Commerce IX (AMEC-IX)*, Honolulu, Hawaii, May 2007.
- [13] Periodically-Inaccessible Self-Interested Agents Efficient Online Mechanisms for Persistent. *Seminar on Computational Social Systems, Schloss Dagstuhl, Wadern Germany, July 2007.*

- [14] Efficient Meta-Deliberation Auctions. *DIMACS Conference on Auctions with Transactions Costs*, New Brunswick NJ, March 2007.
- [15] Introduction to Computational Mechanism Design. *AAMAS Workshop on Rational, Robust, and Secure Negotiations in Multi-Agent Systems (RSS'06)*, Hakodate, Japan, May 2006.
- [16] Sequential Decision Making Learning and Mechanism Design. *GATE Workshop*, Kellogg School Northwestern University, Evanston IL, October 2005.
- [17] 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.
- [18] A Market-Inspired Approach to Multiagent Learning and Distributed Implementation. *DARPA Workshop on Distributed Cognitive Systems*, Somerville MA, June 2004.
- [19] Directions in Computational Mechanism Design. *DARPA Information Science and Technology (ISAT) Workshop on the "Network as Economy"*, Alexandria VA, January 2004.
- [20] 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.
- [21] **Panel:** Design of Simultaneous Exchanges and Proxy Bidding Auctions. In *FCC Combinatorial Auctions and Exchanges Workshop*, Federal Communications Commission, Washington, DC, September 2003.
- [22] **Panel:** Challenging Agent-Mediated Electronic Commerce. In *AAMAS Workshop on Agent-Mediated Electronic Commerce V (AMEC-V)*, Melbourne, Australia, July 2003.
- [23] **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.
- [24] Mechanism Design for Complex Systems: Towards Autonomic Configuration. *Collectives and Design of Complex Systems Workshop*, NASA Ames, Moffett Field CA, August 2002.
- [25] Minimal-Revelation VCG Mechanisms for Combinatorial Auctions. *Seminar on Electronic Market Design*, Schloss Dagstuhl, Wadern, Germany, June 2002.
- [26] Minimal Preference Elicitation: An Equilibrium Approach. *DIMACS Workshop on Computational Issues in Game Theory and Mechanism Design*, New Brunswick NJ, November 2001.

Distinguished Lecturer Series

- [1] Incentive Mechanism Engineering in the Internet Age. *Distinguished Lecturer Series*, Computer Science and Automation, Indian Institute of Sciences, Bangalore, India, November 2010.
- [2] Incentive Mechanism Engineering in the Internet Age. *Distinguished Lecturer Series*, Triangle Computer Science, Duke University, Durham, North Carolina, September 2010.

- [3] Incentive Mechanism Engineering in the Internet Age. *Distinguished Lecture Series, University of British Columbia, Canada*, March 2010.

Departmental Seminars and Colloquia

- [1] Automated Design of Payment Rules for Combinatorial Auctions via Structural Support Vector Machines. *Boston College, Newton, MA*, April 2011.
- [2] Trust, Feature Explosion and Simplicity—Some Cross-Cutting Issues in Computational Market Design. *Operations and Management Seminar Series, HBS, Boston, MA*, February 2010.
- [3] Incentive Mechanism Engineering in the Internet Age. *School of Computer Science, McGill University, Quebec, Canada*, April 2010.
- [4] Heuristic Mechanism Design. *Economics Department, Bocconi University, Milan, Italy*, November 2010.
- [5] Constructing Dynamic Auctions via Ironing and Stochastic Optimization. *Computer Science Department, Ecole Polytechnique Fédérale Lausanne, Lausanne, Switzerland*, November 2008.
- [6] Explorations in Computational Mechanism Design. *Artificial Intelligence Research Institute, Barcelona Spain*, March 2008.
- [7] Explorations in Computational Mechanism Design. *CART Seminar, Tepper School, CMU, Pittsburgh PA*, March 2008.
- [8] Tell the truth: Incentives for Dynamic Environments. *IOMS, Stern School, New York University, New York NY*, November 2007.
- [9] Tell the truth: Incentives for Dynamic Environments. *Computer Science Department, Cornell University, Ithaca NY*, October 2007.
- [10] Efficient Dynamic Incentive Mechanisms. *Economics Department, Yale University, New Haven CT*, October 2007.
- [11] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *OR/MS Seminar series, University of Massachusetts, Amherst MA*, April 2007.
- [12] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *Computer Science Department, Brown University, Providence RI*, February 2007.
- [13] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *Department of Economics, University College London, London, U.K.*, February 2007.
- [14] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *Applied Mathematics, University of Guelph, Guelph Canada*, January 2007.
- [15] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *Carnegie Mellon University ISR/COS/AI Seminar, Pittsburgh PA*, February 2007.
- [16] Adaptive Sequential Decision Making with Self-interested Agents. *Computer Science Department, Wayne State University, Detroit MI*, October 2006.

- [17] Adaptive Online Mechanism Design for Sequential Environments. *MIT Operations Research Center Seminar, Cambridge MA*, April 2006.
- [18] Adaptive and Truthful Online Mechanisms in Single-Valued Preference Domains. *MIT Theory Colloquium, Cambridge MA*, September 2006.
- [19] Distributed Reinforcement Learning with Self-Interested Agents. *Department of Economics, Washington University in St. Louis, St. Louis MO*, April 2005.
- [20] Scalable and Expressive Iterative Combinatorial Exchanges. *Computer Science Department, Princeton University, Princeton NJ*, February 2005.
- [21] 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.
- [22] Incentive-Compatible Multi-Armed Bandits. *University of Massachusetts Artificial Intelligence Seminar, Amherst MA*, April 2005.
- [23] WiFi Starbucks: Mechanisms for Sequential Decisions. *Negotiation, Organizations and Markets Seminar Series, Harvard Business School, Allston MA*, May 2004.
- [24] Preference Elicitation in Proxied Multiattribute Auctions. *Department of Operations and Information Management, School of Business, University of Connecticut, Storrs CT*, February 2003.
- [25] Preference Elicitation in Proxied Multiattribute Auctions. *CS&E Economics Seminar Series, California Institute of Technology, Pasadena CA*, February 2003.
- [26] 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.
- [27] Overcoming Rational Manipulation in Mechanism Implementations. *Economics Department and Graduate School of Business, Stanford University, Palo Alto CA*, December 2003.
- [28] Vickrey-Based Combinatorial Exchanges. *Decision Sciences, Fuqua School of Business, Duke University, Durham NC*, April 2002.
- [29] Iterative Generalized Vickrey Auctions. *MIT Operations Research Center, Sloan School of Management, Cambridge MA*, October 2001.
- [30] Towards Efficient Auction Mechanisms for Electronic Commerce: Key Computational Challenges. *Electronic Commerce seminar series, North Carolina State University, Raleigh, NC*, October 2000.
- [31] Iterative Combinatorial Auctions: Towards Economic and Computational Efficiency. *Operations and Information Management, The Wharton School, University of Pennsylvania, Philadelphia PA*, April 2000.
- [32] Iterative Combinatorial Auctions. *Electronic Markets seminar series, R.H. Smith School of Business, University of Maryland, College Park MD*, December 2000.

Other Talks

- [1] Incentive Engineering in the Internet Age. *Harvard GSAS Alumni Day Symposium 2010, Cambridge, MA*, April 2010.
- [2] Combinatorial Exchanges. *Yahoo! Labs, Bangalore, India*, November 2010.
- [3] Quantifying Approximate Strategyproofness. *Computer Science and Engineering, University of Michigan, Ann Arbor, MI*, December 2009.
- [4] An Agenda in Heuristic (Computational) Mechanism Design. *Microsoft Research New England, Cambridge, MA*, April 2009.
- [5] Coordination via Dynamic Mechanism Design. *Google, Cambridge, MA*, May 2008.
- [6] Coordination Mechanisms for Dynamic Multi-Agent Environments. *Multi-agents Group seiminar, Computer Science Department, Stanford University, Palo Alto CA*, January 2008.
- [7] Coordination Mechanisms for Dynamic Multi-Agent Environments. *Center for Algorithmic Game Theory, Department of Computer Science, University of Aarhus, Aarhus, Denmark*, March 2008.
- [8] Tell the truth: Incentives for Dynamic Environments. *Computer Science Department, EPFL, Lausanne, Switzerland*, October 2007.
- [9] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *University of Toronto AI Seminar, Toronto Canada*, January 2007.
- [10] Adaptive Online Allocation Mechanisms for Single-Valued Domains. *University of Southampton AI Seminar, Southampton, U.K.*, February 2007.
- [11] Incentive Mechanisms for Dynamic Environments. *DIMACS Workshop on the Boundary between Economic Theory and Computer Science, New Brunswick NJ*, October 2007.
- [12] Stable Networks, the Role of Consent, and Information. *Radcliffe Exploratory Seminar on Dynamic Networks: Behavior, Optimization and Design, Cambridge MA*, October 2006.
- [13] Optimal Coordinated Learning Among Self-Interested Agents in the Multi-Armed Bandit Problem. *MIT Reading Group on Game Theory, Cambridge MA*, April 2005.
- [14] 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.
- [15] Applying Learning Algorithms to Preference Elicitation in Combinatorial Auctions. *Adaptive Systems and Interaction Group, Microsoft Research, Redmond WA*, December 2004.
- [16] Applying Learning Algorithms to Preference Elicitation. *Radcliffe Seminar on Revealed and Latent Preferences: Economic and Computational Approaches, Cambridge MA*, May 2004.
- [17] Distributed Implementation of Vickrey-Clarke-Groves Mechanisms. *Adaptive Systems and Interaction Group, Microsoft Research, Redmond WA*, June 2004.

- [18] Distributed Implementation of Mechanisms. *MIT LCS Game theory reading group*, April 2004.
- [19] Revenue-Based Combinatorial Exchanges for Electricity Markets. *Federal Energy Regulatory Commission, Washington DC*, February 2004.
- [20] Efficient Online Mechanisms. *Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS'03), Atlanta GA*, October 2003.
- [21] Anytime Strategyproof Mechanisms. *Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS'03), Atlanta GA*, October 2003.
- [22] Strategyproof Infrastructure for Plug-and Play Negotiation. *MIT LCS Advanced Network Architecture Group, Cambridge MA*, March 2003.
- [23] 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.
- [24] Iterative Multiattribute Auctions. *Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS'02), San Jose CA*, November 2002.
- [25] 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.
- [26] VGC-Based Combinatorial Exchanges. *Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS'01), Miami Beach FL*, November 2001.
- [27] Designing Against Manipulation: Vickrey Based Payment Schemes. *Agents & Emergent Phenomena seminar series, IBM T.J. Watson Research Center, Hawthorne NY*, August 2000.
- [28] Updating Vickrey-1961: Towards Multi-attribute Procurement Auctions. *Electronic Commerce Seminar series, IBM T.J. Watson Research Center, Hawthorne NY*, July 2000.
- [29] Towards Iterative, Efficient and Strategy-Proof Combinatorial Auctions. *AI & Statistics seminar series, AT&T Research Labs, Florahm Park NJ*, November 2000.

Patents

- [1] Christopher A. Thorpe and David C. Parkes. *Cryptographic Securities Exchanges*. Harvard University, January 2007. U.S. Provisional Filing.
- [2] Tuomas Sandholm, Craig Boutilier, George Nemhauser, Rob Shields, David Parkes, and William Walsh. *A System and Method for Automatic Determination and Use of Abstract Channels in Online Advertising*. November 2009. U.S. Patent Application 2009/61/151,333; 61/113,306.
- [3] Tuomas Sandholm, David C. Parkes, Craig Boutilier, and William Walsh. *System and Method of Expressive Auctions of User Events*. July 2007. U.S. Patent Application 2008/0052219.

- [4] Tuomas Sandholm, David C. Parkes, and Craig Boutilier. *System For And Method Of Expressive Sequential Auctions In A Dynamic Environment On A Network*. March 2006. U.S. Patent Application 2006/0224496.
- [5] Tuomas Sandholm, David Parkes, Craig Boutilier, Subhash Suri, Jason Brown, and Luc Mercier. *A System and Method for Procurement Strategy Optimization against Expressive Contracts*. 2010. U.S. Patent Application 2010/0106652.
- [6] Tuomas Sandholm, David Parkes, Craig Boutilier, Subhash Suri, Jason Brown, and Luc Mercier. *A System and Method for Payment Reconciliation against Expressive Contracts*. 2010. U.S. Patent Application 2010/0114784.
- [7] Tuomas Sandholm, David Parkes, Craig Boutilier, Subhash Suri, Jason Brown, and Luc Mercier. *A System and Method for Contract Execution Against Expressive Contracts against Expressive Contracts*. 2010. U.S. Patent Application 2010/0106653.
- [8] Tuomas Sandholm, Richard McKenzie, David Levine, David C Parkes, Subhash Suri, Vincent Conitzer, Robert Shields, Benjamin Schmaus, and Christopher Cole. *Dynamic Exchange Method and Apparatus*. March 2009. U.S. Patent 7499880.
- [9] Tuomas Sandholm, David L. Levine, David C. Parkes, Subhash Suri, Vincent Conitzer, Robert L. Shields, and Yuri Smirnov. *Method and Apparatus for Conducting a Dynamic Exchange*. August 2009. U.S. Patent 7577589.
- [10] Tuomas Sandholm, David Levine, David C Parkes, Subhash Suri, Vincent Conitzer, Robert Shields, and Yuri Smirnov. *Overconstraint Detection, Rule Relaxation and Demand Reduction in a Combinatorial Exchange*. 2009. U.S. Patent Application 2009/0281920.
- [11] Tuomas Sandholm, David Levine, David C Parkes, Subhash Suri, Vincent Conitzer, Robert Shields, and Yuri Smirnov. *Items Ratio Based Price/Discount Adjustment in a Combinatorial Auction*. 2009. U.S. Patent Application 2009/0287560.
- [12] Tuomas Sandholm, David Levine, David C Parkes, Subhash Suri, Vincent Conitzer, Robert Shields, and Yuri Smirnov. *Bid Modification Based on Logical Connections Between Trigger Groups in a Combinatorial Exchange*. 2009. U.S. Patent Application 2009/0276329.
- [13] David C. Parkes and Christopher Thorpe. *Zero-Knowledge Proofs in Large Trades*. October 2008. U.S. Patent Application 2009/0177591.
- [14] David C. Parkes, Michael O. Rabin, Stuart M. Shieber, and Christopher Thorpe. *Practical Secrecy-Preserving, Verifiably Correct and Trustworthy Auctions*. May 2009. U.S. Patent Application 2009/0182667.
- [15] David C. Parkes, Marta Eso, and Jayant Kalagnanam. *A Method for Computing Payment Discounts to Achieve Budget-Balance in Exchanges*. May 2009. U.S. Patent 7536337.
- [16] Sebastien Lahaie, David M Pennock, Sihem Amer-Yahia, and David Parkes. *Method and Apparatus for Administering a Bidding Language for Online Advertising*. 2010. U.S. Patent Application 2010/0070322.
- [17] Frederick Herz, Jonathan M. Smith, and David C. Parkes. *Location Enhanced Information Delivery System*. May 2003. U.S. Patent 6,571,279.

- [18] Frederick Herz, Paul Labys, David C Parkes, Sampath Kannan, and Jason Eisner. *Secure Data Interchange*. 2009. U.S. Patent Application 7,630,986.
- [19] Craig Boutilier, George Nemhauser, David C Parkes, Tuomas Sandholm, Rob Shields, and William E Walsh. *Automated Channel Abstraction for Advertising Auctions*. 2010. U.S. Patent Application 2010/0121671.