#### Curriculum Vitae

# LAWRENCE M. AUSUBEL

# Address

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# **Education**

Ph.D. (1984) M.L.S. (1984) M.S. (1982) A.B. (1980)	Stanford University, Economics Stanford Law School, Legal Studies Stanford University, Mathematics Princeton University, Mathematics
Honors:	Fellow of the Econometric Society Phi Beta Kappa Sigma Xi
	Magna cum laude in mathematics Stanford University Economics Department, graduate fellowship, 1982 Stanford Law School, fellowship in law and economics, 1983

# **Fields of Concentration**

Market Design Auction Theory and Bargaining Theory Microeconomic Theory and Game Theory Credit Cards, Bankruptcy and Banking Industrial Organization Law and Economics

#### **Professional Experience**

Professor of Economics, University of Maryland (August 1992 - present).

Assistant Professor of Managerial Economics and Decision Sciences, Kellogg School, Northwestern University (September 1984 – August 1992).

Visiting Assistant Professor, New York University (January 1990 – May 1990).

Teaching Fellow, variously in mathematics and economics, Stanford University (1981 – 83).

# Teaching

Econ 456	Law and Economics (Undergraduate; Maryland)
Econ 603	Microeconomic Analysis (Ph.D.; Maryland)
Econ 661	Industrial Organization (Ph.D.; Maryland)
Econ 704	Advanced Microeconomics: Market Design (Ph.D.; Maryland)
Mngrl Econ D30	Intermediate Microeconomics (M.B.A.; Northwestern)
Mngrl Econ D45	Regulation and Deregulation (M.B.A.; Northwestern)

#### **Publications**

- "Revealed Preference and Activity Rules in Dynamic Auctions" (with Oleg Baranov), International Economic Review, Vol. 61, No. 2, pp. 471–502, May 2020 [lead article].
- "Core-Selecting Auctions with Incomplete Information" (with Oleg Baranov), *International Journal of Game Theory*, Vol. 49, No. 1, pp. 251–273, March 2020.
- "An Experiment on Auctions with Endogenous Budget Constraints" (with Justin E. Burkett and Emel Filiz-Ozbay), *Experimental Economics*, Vol. 20, No. 4, pp. 973–1006, December 2017.
- "A Practical Guide to the Combinatorial Clock Auction" (with Oleg Baranov), *Economic Journal*, Vol. 127, No. 605 (Feature Issue), pp. F334–F350, October 2017.
- "Efficient Procurement Auctions with Increasing Returns" (with Oleg Baranov, Christina Aperjis and Thayer Morrill), *American Economic Journal: Microeconomics*, Vol. 9, No. 3, pp. 1–27, August 2017 [lead article].
- "Demand Reduction and Inefficiency in Multi-Unit Auctions" (with Peter Cramton, Marek Pycia, Marzena J. Rostek and Marek Weretka), *Review of Economic Studies*, Vol. 81, No. 4, pp. 1366–1400, October 2014.
- "Sequential Kidney Exchange" (with Thayer Morrill), *American Economic Journal: Microeconomics*, Vol. 6, No. 3, pp. 265–285, August 2014.

- "Market Design and the Evolution of the Combinatorial Clock Auction" (with Oleg Baranov), *American Economic Review: Papers & Proceedings*, Vol. 104, No. 5, pp. 456–451, May 2014.
- "Common-Value Auctions with Liquidity Needs: An Experimental Test of a Troubled Assets Reverse Auction" (with Peter Cramton, Emel Filiz-Ozbay, Nathaniel Higgins, Erkut Ozbay and Andrew Stocking), Chapter 20 of *Handbook of Market Design* (Nir Vulkan, Alvin E. Roth, and Zvika Neeman, eds.), Oxford University Press, 2013.
- "Non-Judicial Debt Collection and the Consumer's Choice among Repayment, Bankruptcy and Informal Bankruptcy" (with Amanda E. Dawsey and Richard M. Hynes), *American Bankruptcy Law Journal*, Vol. 87, pp. 1–26, March 2013 [lead article].
- "Virtual Power Plant Auctions" (with Peter Cramton), *Utilities Policy*, Vol. 18, No. 4, pp. 201–208, December 2010.
- "Using Forward Markets to Improve Electricity Market Design" (with Peter Cramton), *Utilities Policy*, Vol. 18, No. 4, pp. 195–200, December 2010.
- "An Efficient Dynamic Auction for Heterogeneous Commodities," *American Economic Review*, Vol. 96, No. 3, pp. 602–629, June 2006.
- "An Efficient Ascending-Bid Auction for Multiple Objects," *American Economic Review*, Vol. 94, No. 5, pp. 1452–1475, December 2004.
- "Dynamic Auctions in Procurement" (with Peter Cramton), Chapter 9 of *Handbook of Procurement* (N. Dimitri, G. Piga, and G. Spagnolo, eds.), pp. 220–245, Cambridge: Cambridge University Press, 2006.
- "The Lovely but Lonely Vickrey Auction" (with Paul Milgrom), Chapter 1 of *Combinatorial Auctions* (P. Cramton, Y. Shoham, and R. Steinberg, eds.), pp. 17–40, Cambridge: MIT Press, 2006.
- "Ascending Proxy Auctions" (with Paul Milgrom), Chapter 3 of *Combinatorial Auctions* (P. Cramton, Y. Shoham, and R. Steinberg, eds.), pp. 79–98, Cambridge: MIT Press, 2006.
- "The Clock-Proxy Auction: A Practical Combinatorial Auction Design" (with Peter Cramton and Paul Milgrom), Chapter 5 of *Combinatorial Auctions* (P. Cramton, Y. Shoham, and R. Steinberg, eds.), pp. 115–138, Cambridge: MIT Press, 2006.
- "Auctioning Many Divisible Goods" (with Peter C. Cramton), *Journal of the European Economics Association*, Vol. 2, Nos. 2-3, pp. 480–493, April-May 2004.
- "Vickrey Auctions with Reserve Pricing" (with Peter C. Cramton), *Economic Theory*, 23, pp. 493–505, April 2004. Reprinted in Charalambos Aliprantis, et al. (eds.), *Assets, Beliefs, and Equilibria in Economic Dynamics*, Berlin: Springer-Verlag, 355–368, 2003.
- "Auction Theory for the New Economy," Chapter 6 of *New Economy Handbook* (D. Jones, ed.), San Diego: Academic Press, 2003.

- "Ascending Auctions with Package Bidding" (with Paul Milgrom), *Frontiers of Theoretical Economics*, Vol. 1, No. 1, Article 1, August 2002. http://www.bepress.com/bejte/frontiers/vol1/iss1/art1
- "Bargaining with Incomplete Information" (with Peter Cramton and Raymond Deneckere), Chapter 50 of *Handbook of Game Theory* (R. Aumann and S. Hart, eds.), Vol. 3, Amsterdam: Elsevier Science B.V., 2002.
- "Package Bidding: Vickrey vs. Ascending Auctions" (with Paul Milgrom), *Revue Economique*, Vol. 53, No. 3, pp. 391–402, May 2002.
- "Implications of Auction Theory for New Issues Markets," *Brookings-Wharton Papers on Financial Services*, Vol. 5, pp. 313–343, 2002.
- "Synergies in Wireless Telephony: Evidence from the Broadband PCS Auctions" (with Peter Cramton, R. Preston McAfee, and John McMillan), *Journal of Economics and Management Strategy*, Vol. 6, No. 3, pp. 497–527, Fall 1997.
- "Credit Card Defaults, Credit Card Profits, and Bankruptcy," *American Bankruptcy Law Journal*, Vol. 71, pp. 249–270, Spring 1997; recipient of the Editor's Prize for the best paper in the American Bankruptcy Law Journal, 1997.
- "Efficient Sequential Bargaining" (with R. Deneckere), *Review of Economic Studies*, Vol. 60, No. 2, pp. 435–461, April 1993.
- "A Generalized Theorem of the Maximum" (with R. Deneckere), *Economic Theory*, Vol. 3, No. 1, pp. 99–107, January 1993.
- "Durable Goods Monopoly with Incomplete Information" (with R. Deneckere), supercedes "Stationary Sequential Equilibria in Bargaining with Two-Sided Incomplete Information," *Review of Economic Studies*, Vol. 59, No. 4, pp. 795–812, October 1992.
- "Bargaining and the Right to Remain Silent" (with R. Deneckere), *Econometrica*, Vol. 60, No. 3, pp. 597–625, May 1992.
- "The Failure of Competition in the Credit Card Market," *American Economic Review*, Vol. 81, No. 1, pp. 50–81, March 1991; reprinted as Chapter 21 in *Advances in Behavioral Finance* (D. Thaler, ed.), Russell Sage Foundation, 1993.
- "Insider Trading in a Rational Expectations Economy," *American Economic Review*, Vol. 80, No. 5, pp. 1022–1041, December 1990.
- "Partially-Revealing Rational Expectations Equilibrium in a Competitive Economy," *Journal of Economic Theory*, Vol. 50, No. 1, pp. 93–126, February 1990.
- "A Direct Mechanism Characterization of Sequential Bargaining with One-Sided Incomplete Information" (with R. Deneckere), *Journal of Economic Theory*, Vol. 48, No. 1,

pp. 18–46, June 1989; reprinted as Chapter 15 in *Bargaining with Incomplete Information* (P. Linhart, R. Radner, and M. Satterthwaite, eds.), Academic Press, 1992.

- "Reputation in Bargaining and Durable Goods Monopoly" (with R. Deneckere), *Econometrica*, Vol. 57, No. 3, pp. 511–531, May 1989 [lead article]; reprinted as Chapter 13 in *Bargaining with Incomplete Information* (P. Linhart, R. Radner, and M. Satterthwaite, eds.), Academic Press, 1992.
- "One is Almost Enough for Monopoly" (with R. Deneckere), *Rand Journal of Economics*, Vol. 18, No. 2, pp. 255–274, Summer 1987.

# **Patents**

- "System and Method for an Auction of Multiple Types of Items" (with Peter Cramton and Wynne P. Jones), U.S. Patent Number 8,762,222, issued June 24, 2014.
- "System and Method for the Efficient Clearing of Spectrum Encumbrances" (with Peter Cramton and Paul Milgrom), U.S. Patent Number 8,744,924, issued June 3, 2014.
- "System and Method for a Dynamic Auction with Package Bidding" (with Paul Milgrom), U.S. Patent Number 8,566,211, issued October 22, 2013.
- "System and Method for an Efficient Dynamic Multi-Unit Auction," U.S. Patent Number 8,447,662, issued May 21, 2013.
- "System and Method for a Hybrid Clock and Proxy Auction" (with Peter Cramton and Paul Milgrom), U.S. Patent Number 8,335,738, issued December 18, 2012.
- "System and Method for a Hybrid Clock and Proxy Auction" (with Peter Cramton and Paul Milgrom), U.S. Patent Number 8,224,743, issued July 17, 2012.
- "System and Method for the Efficient Clearing of Spectrum Encumbrances" (with Peter Cramton and Paul Milgrom), U.S. Patent Number 8,145,555, issued March 27, 2012.
- "Computer Implemented Methods and Apparatus for Auctions," U.S. Patent Number 8,065,224, issued November 22, 2011.
- "Ascending Bid Auction for Multiple Objects," U.S. Patent Number 7,966,247, issued June 21, 2011.
- "System and Method for an Auction of Multiple Types of Items" (with Peter Cramton and Wynne P. Jones), U.S. Patent Number 7,899,734, issued March 1, 2011.
- "System and Method for an Efficient Dynamic Multi-Unit Auction," U.S. Patent Number 7,870,050, issued January 11, 2011.

"Computer Implemented Methods and Apparatus for Auctions," U.S. Patent Number

7,774,264, issued August 10, 2010.

- "System and Method for a Hybrid Clock and Proxy Auction" (with Peter Cramton and Paul Milgrom), U.S. Patent Number 7,729,975, issued June 1, 2010.
- "System and Method for an Efficient Dynamic Multi-Unit Auction," U.S. Patent Number 7,467,111, issued December 16, 2008.
- "System and Method for an Efficient Dynamic Multi-Unit Auction," U.S. Patent Number 7,343,342, issued March 11, 2008.
- "Ascending Bid Auction for Multiple Objects," U.S. Patent Number 7,337,139, issued February 26, 2008.
- "Computer Implemented Methods and Apparatus for Auctions," U.S. Patent Number 7,249,027, issued July 24, 2007.
- "System and Method for an Efficient Dynamic Multi-Unit Auction," U.S. Patent Number 7,165,046, issued January 16, 2007.
- "System and Method for an Efficient Dynamic Multi-Unit Auction," U.S. Patent Number 7,062,461, issued June 13, 2006.
- "System and Method for an Efficient Dynamic Auction for Multiple Objects," U.S. Patent Number 6,026,383, issued February 15, 2000.
- "Computer Implemented Methods and Apparatus for Auctions," U.S. Patent Number 6,021,398, issued February 1, 2000.
- "Computer Implemented Methods and Apparatus for Auctions," U.S. Patent Number 5,905,975, issued May 18, 1999.

#### **Book Reviews and Encyclopedia Entries**

- "Auction Theory," *New Palgrave Dictionary of Economics*, Second Edition, Steven N. Durlauf and Lawrence E. Blume, eds., London: Macmillan, 2008.
- "Credit Cards," McGraw-Hill Encyclopedia of Economics, McGraw-Hill, 1994.
- "Book Review: The Credit Card Industry, by Lewis Mandell," *Journal of Economic Literature*, Vol. 30, No. 3, September 1992, pp. 1517-18.

"Credit Cards," New Palgrave Dictionary of Money and Finance, Stockton Press, 1992.

#### **Working Papers**

- "Market Design and the FCC Incentive Auction" (with Christina Aperjis and Oleg V. Baranov), October 2017.
- "The Combinatorial Clock Auction, Revealed Preference and Iterative Pricing" (with Oleg V. Baranov), February 2014.
- "Penalty Interest Rates, Universal Default, and the Common Pool Problem of Credit Card Debt" (with Oleg V. Baranov and Amanda E. Dawsey), mimeo, University of Maryland, June 2010.
- "A Troubled Asset Reverse Auction" (with Peter Cramton), working paper, University of Maryland, October 2008.
- "Time Inconsistency in the Credit Card Market" (with Haiyan Shui), mimeo, University of Maryland, January 2005.
- "Informal Bankruptcy" (with Amanda E. Dawsey), mimeo, University of Maryland, April 2004.
- "Adverse Selection in the Credit Card Market," mimeo, University of Maryland, June 1999.
- "The Credit Card Market, Revisited," mimeo, University of Maryland, July 1995.
- "Walrasian Tâtonnement for Discrete Goods," mimeo, University of Maryland, July 2005.
- "Bidder Participation and Information in Currency Auctions" (with Rafael Romeu), Working Paper WP/05/157, International Monetary Fund, 2005.
- "A Mechanism Generalizing the Vickrey Auction," mimeo, University of Maryland, September 1999.
- "The Ascending Auction Paradox" (with Jesse Schwartz), mimeo, University of Maryland, July 1999.
- "The Optimality of Being Efficient" (with Peter Cramton), mimeo, University of Maryland, June 1999.
- "Sequential Recontracting Under Incomplete Information" (with Arijit Sen), mimeo, University of Maryland, June 1995.
- "Separation and Delay in Bargaining" (with Raymond Deneckere), mimeo, University of Maryland, April 1994.
- "A Model of Managerial Discretion and Corporate Takeovers," mimeo, University of Maryland, March 1993.

"Rigidity and Asymmetric Adjustment of Bank Interest Rates," mimeo, University of Maryland, August 1992.

"Oligopoly When Market Share Matters," mimeo, Stanford University, May 1984.

"Partially-Revealing Equilibria," Stanford University, Department of Economics, August 1984. Dissertation committee: Mordecai Kurz (principal advisor); Peter J. Hammond; Kenneth J. Arrow.

#### Works in Progress

"The Hungarian Auction" (with T. Morrill)

"Bargaining and Forward Induction" (with R. Deneckere)

# **Op-Eds**

- "Making Sense of the Aggregator Bank" (with Peter Cramton), *Economists' Voice*, Vol. 6, Issue 3, Article 2, February 2009.
- "No Substitute for the 'P'-Word in Financial Rescue" (with Peter Cramton), *Economists' Voice*, Vol. 6, Issue 2, Article 2, February 2009.
- "Auction Design Critical for Rescue Plan" (with Peter Cramton), *Economists' Voice*, Vol. 5, Issue 5, Article 5, September 2008.

# **Research Grants**

- Principal Investigator, "Common-Value Auctions with Liquidity Needs" (with P. Cramton, E. Filiz-Ozbay and E. Ozbay), National Science Foundation Grant SES-09-24773, September 1, 2009 – August 31, 2013.
- Principal Investigator, "Dynamic Matching Mechanisms" (with P. Cramton), National Science Foundation Grant SES-05-31254, August 15, 2005 – July 31, 2008.
- Co-Principal Investigator, "Slot Auctions for U.S. Airports" (with M. Ball, P. Cramton and D. Lovell), Federal Aviation Administration, September 1, 2004 August 31, 2005.
- Co-Principal Investigator, "Rapid Response Electronic Markets for Time-Sensitive Goods" (with G. Anandalingam, P. Cramton, H. Lucas, M. Ball and V. Subrahmanian), National Science Foundation Grant IIS-02-05489, Aug 1, 2002 – July 31, 2005.
- Principal Investigator, "Multiple Item Auctions" (with P. Cramton), National Science Foundation Grant SES-01-12906, July 15, 2001 – June 30, 2004.

- Principal Investigator, "Auctions for Multiple Items" (with P. Cramton), National Science Foundation Grant SBR-97-31025, April 1, 1998 – March 31, 2001.
- Co-Principal Investigator, "Auctions and Infrastructure Conference" (with P. Cramton), National Science Foundation, April 1, 1998 – March 31, 1999.
- Principal Investigator, "Bargaining Power, Sequential Recontracting, and the Principal-Agent Problem" (with A. Sen), National Science Foundation Grant SBR-94-10545, October 15, 1994 – September 30, 1997.
- Principal Investigator, "Insider Trading and Economic Efficiency," The Lynde and Harry Bradley Foundation, May 15, 1989 May 14, 1992.
- Principal Investigator, "Bargaining with One- and Two-Sided Incomplete Information" (with R. Deneckere), National Science Foundation Grant SES-86-19012, June 1, 1987 May 31, 1989.
- Principal Investigator, "Information Transmission in Bargaining and Markets" (with R. Deneckere), National Science Foundation Grant IST-86-09129, July 1, 1986 June 30, 1987.

#### **Conference Presentations**

- "On Generalizing the English Auction," Econometric Society Winter Meetings, Chicago, January 1998.
- "The Optimality of Being Efficient," Maryland Auction Conference, Wye River, May 1998.
- "Adverse Selection in the Credit Card Market," Western Finance Association, Monterey, June 1998.
- "The Optimality of Being Efficient," Econometric Society Summer Meetings, Montreal, June 1998.
- "Bargaining and Forward Induction," Northwestern Summer Microeconomics Conference, Evanston, IL, July 1998.
- "Predicting Personal Bankruptcies," National Conference of Bankruptcy Judges, Dallas, October 1998.
- "Adverse Selection in the Credit Card Market," NBER Behavioral Macroeconomics Conference, Boston, December 1998.
- "The Ascending Auction Paradox," Econometric Society Summer Meetings, Madison, June 1999.
- "Adverse Selection in the Credit Card Market," Econometric Society Summer Meetings, Madison, June 1999.

- "Predicting Personal Bankruptcies," Meeting of the National Association of Chapter Thirteen Trustees, New York, July 1999.
- "The Ascending Auction Paradox," Southeast Economic Theory Conference, Washington DC, November 1999.
- "Adverse Selection in the Credit Card Market," Utah Winter Finance Conference, Salt Lake City, February 2000.
- "An Efficient Dynamic Auction for Heterogeneous Commodities," Conference on Auctions and Market Structure, Heidelberg, Germany, July 2000.
- "An Efficient Dynamic Auction for Heterogeneous Commodities," Conference on Multiunit Auctions, Stony Brook, NY, July 2000.
- "A Mechanism Generalizing the Vickrey Auction," Econometric Society World Congress, Seattle, August 2000.
- "Auctions for Financial E-Commerce," New York Federal Reserve Bank Conference on Financial E-Commerce, New York, February 2001.
- "An Efficient Dynamic Auction for Heterogeneous Commodities," NSF General Equilibrium Conference, Providence, RI, April 2001.
- "An Efficient Dynamic Auction for Heterogeneous Commodities," NSF/NBER Decentralization Conference, Evanston, IL, April 2001.
- "Informal Bankruptcy," Association of American Law Schools Workshop on Bankruptcy, St. Louis, MO, May 2001.
- "An Efficient Dynamic Auction for Heterogeneous Commodities," Econometric Society Summer Meetings, College Park, MD, June 2001.
- "Ascending Auctions with Package Bidding," FCC, SIEPR and NSF Conference on Combinatorial Auctions, Wye River, MD, October 2001.
- "The Electricité de France Generation Capacity Auctions," CORE-ECARES-LEA Workshop on Auctions, Brussels, Belgium, November 2001.
- "Informal Bankruptcy," Utah Winter Finance Conference, Salt Lake City, February 2002.
- "Defictionalizing the Walrasian Auctioneer," Conference on Market Design in Honor of Robert Wilson, Stanford, CA, May 2002.
- "Adverse Selection in the Credit Card Market," Conference on the Economics of Payment Networks, Toulouse, France, June 2002.

- "Ascending Auctions with Package Bidding," Econometric Society Summer Meetings, Los Angeles, June 2002.
- "An Efficient Dynamic Auction for Heterogeneous Commodities," Conference in Honor of Mordecai Kurz, Stanford, CA, August 2002.
- "Adverse Selection in the Credit Card Market," Conference on Credit, Trust and Calculation, San Diego, November 2002.
- "Package Bidding for Spectrum Auctions," American Economic Association Meetings, Washington, DC, January 2003.
- "Auctioning Many Divisible Goods," invited session, European Economic Association Annual Congress, Stockholm, August 2003.
- "Spectrum Auctions with Package Bidding," TPRC Research Conference on Communication, Information and Internet Policy, Arlington, VA, September 2003.
- "Defictionalizing the Walrasian Auctioneer," invited lecture, Conference on Auctions and Market Design: Theory, Evidence and Applications, Fondazione Eni Enrico Mattei, Milan, September 2003.
- "Clock Auctions, Proxy Auctions, and Possible Hybrids," Workshop on Auction Theory and Practice, Pittsburgh, PA, November 2003.
- "Clock Auctions, Proxy Auctions, and Possible Hybrids," FCC Combinatorial Bidding Conference, Wye River, MD, November 2003.
- "Time Inconsistency in the Credit Card Market," Utah Winter Finance Conference, Salt Lake City, February 2004.
- "The Clock-Proxy Auction: A Practical Combinatorial Auction Design," Conference on Auctions and Market Design: Theory, Evidence and Applications, Consip, Rome, Italy, September 2004.
- "Bidder Participation and Information in Currency Auctions," Conference on Auctions and Market Design: Theory, Evidence and Applications, Consip, Rome, Italy, September 2004.
- "The Clock-Proxy Auction: A Practical Combinatorial Auction Design," Market Design Conference, Stanford University, December 2004.
- "Dynamic Matching Mechanisms," Econometric Society World Congress, London, August 2005.
- "The Clock-Proxy Auction, with Recent Applications," SISL Workshop, Caltech, October 2005.

- "Dynamic Matching Mechanisms," Conference on Matching and Two-Sided Markets, University of Bonn, May 2006.
- "The Hungarian Auction," DIMACS Workshop on Auctions with Transaction Costs, Rutgers University, March 2007.
- "The Hungarian Auction," PSE Lecture at the Paris School of Economics, June 2007.
- "Time Inconsistency in the Credit Card Market," John M. Olin Conference on Law and Economics of Consumer Credit, University of Virginia, February 2008.
- "The Hungarian Auction," 6th Annual International Industrial Organization Conference, Arlington, VA, May 2008.
- "The Hungarian Auction," Frontiers of Microeconomic Theory and Policy, Symposium in Honour of Ray Rees, University of Munich, July 2008.
- "Common-Value Auctions with Liquidity Needs: An Experimental Test of a Troubled Assets Reverse Auction," 2009 CAPCP Conference on Auctions and Procurement, Penn State University, March 2009.
- "Market Design for Troubled Assets," NBER Workshop on Market Design, Cambridge, MA, May 2009.
- "Market Design for Troubled Assets," Madrid Summer Workshop on Economic Theory, Universidad Carlos III de Madrid, June 2009.
- "Virtual Power Plant Auctions," (with Peter Cramton), Workshop: Designing Electricity Auctions, Research Institute of Industrial Economics, Stockholm, Sweden, September 2009.
- "Using Forward Markets to Improve Electricity Market Design," (with Peter Cramton), Workshop: Designing Electricity Auctions, Research Institute of Industrial Economics, Stockholm, Sweden, September 2009.
- "Virtual Power Plant Auctions," (with Peter Cramton), Market Design 2009 Conference, Stockholm, Sweden, September 2009.
- "Using Forward Markets to Improve Electricity Market Design," (with Peter Cramton), Market Design 2009 Conference, Stockholm, Sweden, September 2009.
- "Auctions with Multiple Objects," 2009 Erwin Plein Nemmers Prize in Economics, Conference in Honor of Paul Milgrom, Northwestern University, November 2009.
- "Penalty Interest Rates, Universal Default, and the Common Pool Problem of Credit Card Debt" (with Oleg V. Baranov and Amanda E. Dawsey), Credit, Default and Bankruptcy Conference, University of California - Santa Barbara, June 2010.

- "Core-Selecting Auctions with Incomplete Information" (with Oleg V. Baranov), World Congress of the Econometric Society, Shanghai, China, August 2010.
- "Core-Selecting Auctions with Incomplete Information" (with Oleg V. Baranov), NBER Workshop on Market Design, Cambridge, MA, October 2010.
- "Core-Selecting Auctions with Incomplete Information" (with Oleg V. Baranov), NSF/CEME Decentralization Conference, Ohio State University, April 2011
- "Penalty Interest Rates, Universal Default, and the Common Pool Problem of Credit Card Debt" (with Oleg V. Baranov and Amanda E. Dawsey), Centre for Financial Analysis & Policy Conference on Consumer Credit and Bankruptcy, University of Cambridge, UK, April 2011.
- "Core-Selecting Auctions with Incomplete Information" (with Oleg V. Baranov), Center for the Study of Auctions, Procurements and Competition Policy Conference, Penn State University, April 2011.
- "Design Issues for Combinatorial Clock Auctions" (with Oleg V. Baranov), Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS), Phoenix AZ, October 2012.
- "An Enhanced Combinatorial Clock Auction" (with Oleg V. Baranov), SIEPR Conference on the FCC Incentive Auctions, Stanford University, February 2013.
- "Enhancing the Combinatorial Clock Auction" (with Oleg V. Baranov), Ofcom Conference, Combinatorial Auctions for Spectrum, London School of Economics, September 2013.
- "The Combinatorial Clock Auction, Revealed Preference and Iterative Pricing" (with Oleg V. Baranov), NBER Workshop on Market Design, Stanford University, October 2013.
- "Market Design and the Evolution of the Combinatorial Clock Auction" (with Oleg V. Baranov), invited session in honor of the Nobel Prize in Economics awarded to Market Design, American Economic Association meetings, Philadelphia, January 2014.
- "Revealed Preference in Bidding: Empirical Evidence from Recent Spectrum Auctions" (with Oleg V. Baranov), NBER Market Design Conference, Palo Alto, CA, June 2014.
- "Enhancing the Combinatorial Clock Auction" (with Oleg V. Baranov), Industry Canada Retrospective on the Canadian 700 MHz Spectrum Auction, Ottawa, Canada, November 2014.
- "Efficient Procurement Auctions with Increasing Returns" (with Oleg V. Baranov, Christina Aperjis and Thayer Morrill), Annual Meeting of the Institute for Operations Research and the Management Sciences (INFORMS), Philadelphia PA, November 2015.
- "Efficient Procurement Auctions with Increasing Returns" (with Oleg V. Baranov, Christina Aperjis and Thayer Morrill), Workshop on Auction Design, University of Vienna, August 2016.

- "Vickrey-Based Pricing in Iterative First-Price Auctions" (with Oleg V. Baranov), Workshop on Auction Design, University of Vienna, August 2016.
- "Efficient Procurement Auctions with Increasing Returns" (with Oleg V. Baranov, Christina Aperjis and Thayer Morrill), NBER Market Design Conference, Palo Alto, CA, October 2016.
- "Market Design and the FCC Incentive Auction" (with Christina Aperjis and Oleg V. Baranov), Tenth Bi-Annual Conference on Economic Design,, York, UK, June 2017.
- "Market Design and the FCC Incentive Auction" (with Christina Aperjis and Oleg V. Baranov), NBER Market Design Conference, Cambridge, MA, October 2017.
- "Market Design and the FCC Incentive Auction" (with Christina Aperjis and Oleg V. Baranov), New Perspectives on Spectrum Policy Workshop, U Penn Law School, April 2018.
- "Revealed Preference and Activity Rules in Auctions" (with Oleg V. Baranov), keynote talk, York Annual Symposium on Game Theory 2018, York, UK, June 2018.
- "Market Design and the FCC Incentive Auction" (with Christina Aperjis and Oleg V. Baranov), INFORMS Workshop on Mathematical Optimization in Market Design, Ithaca, NY, June 2018.
- "Market Design and the FCC Incentive Auction" (with Christina Aperjis and Oleg V. Baranov), European Economic Association Annual Congress, Cologne, August 2018.
- "Revealed Preference and Activity Rules in Auctions" (with Oleg Baranov), Society of Economic Design, Budapest, June 2019.
- "VCG, the Core, and Assignment Stages in Auctions" (with Oleg Baranov), Society of Economic Design, Budapest, June 2019.
- "Supply Reduction in the Broadcast Incentive Auction," (with Christina Aperjis and Oleg Baranov), NBER Market Design Conference, Cambridge, MA, October 2019.
- "Supply Reduction in the Broadcast Incentive Auction," (with Christina Aperjis and Oleg Baranov), Econometric Society World Congress, Virtual Milan, August 2020.
- "Supply Reduction in the Broadcast Incentive Auction," (with Christina Aperjis and Oleg Baranov), INFORMS Annual Meeting, Virtual Washington DC, November 2020.

#### **Professional Service**

Mentored the National Winner of the 2017-18 Siemens Competition in Math, Science and Technology (Andrew Komo of Bethesda, MD).

- Member of working group for the design and implementation of the broadcast incentive auction for the US Federal Communications Commission, 2011–2017.
- Advisor to the Bureau of Ocean Energy Management, US Department of Interior, for the design and implementation of offshore wind energy auctions, 2012–present.
- Advisor to Innovation, Science and Economic Development Canada for the design and implementation of 600 MHz, 700 MHz and 2.5 GHz spectrum auctions, 2011 present.
- Advisor to the Australian Communications and Media Authority for the design and implementation of the Australian Digital Dividend Auction and future spectrum auctions, 2011 present.
- Congressional Briefing on "How Fundamental Economic Research Improves People's Lives," Rayburn House Office Building, March 2010.
- Testified before the Committee on Banking, Housing and Urban Affairs of the US Senate, Hearing on "Modernizing Consumer Protection in the Financial Regulatory System: Strengthening Credit Card Protections," February 12, 2009.
- Testified before the Subcommittee on Financial Institutions and Consumer Credit of the US House of Representatives, Hearing on "The Credit Cardholders' Bill of Rights: Providing New Protections for Consumers," March 13, 2008.
- Member, National Science Foundation Economics Panel, 2004 2005.
- Associate Editor, Berkeley Electronic Journals of Theoretical Economics, 2004 present.
- Guest Associate Editor, Management Science, issue on Electronic Auctions, 2003.
- Program Chair of the 2001 North American Summer Meeting of the Econometric Society (with Peter Cramton), University of Maryland, June 21–24, 2001.
- Program Committee of the North American Summer Meeting of the Econometric Society, UCLA, June 2002, and University of Pennsylvania, June 1991.
- Organized Maryland Auction Conference (with Peter Cramton), Wye River Conference Center, May 1998, sponsored by the National Science Foundation, the World Bank, and the University of Maryland.
- Spoke at a Forum on Bankruptcy of the Financial Services Committee of the United States House of Representatives, February 28, 2001.
- Testified before the Subcommittee on Commercial and Administrative Law of the United States House of Representatives, Hearing on the Consumer Bankruptcy Issues in the Bankruptcy Reform Act of 1998, March 10, 1998.
- Testified before the Subcommittee on Financial Institutions and Regulatory Relief of the United States Senate, Hearing on Bankruptcy Reform, February 11, 1998.

Testified before the National Bankruptcy Review Commission, January 1997.

Referee for: American Economic Review, Econometrica, European Economic Review, Games and Economic Behavior, International Journal of Game Theory, International Journal of Industrial Organization, Journal of Banking and Finance, Journal of Business, Journal of Economic Theory, Journal of Financial Intermediation, Journal of Political Economy, Quarterly Journal of Economics, Rand Journal of Economics, Review of Economic Studies, and the National Science Foundation.

#### **Professional Organizations**

American Economic Association Econometric Society INFORMS