Evdokia V. Nikolova

CONTACT INFORMATION

University of Texas at Austin
Department of Electrical and Computer Engineering
Room: UTA 7.212
Austin, TX 78701, USA
E-mail: nikolova@austin.utexas.edu
Web: http://users.ece.utexas.edu/~nikolova

PROFESSIONAL POSITIONS

University of Texas at Austin — Austin, TX
Assistant Professor — Jan. 2014–present
Department of Electrical & Computer Engineering.

Texas A&M University — College Station, TX
Assistant Professor — 2011–2014
Department of Computer Science & Engineering.

Massachusetts Institute of Technology — Cambridge, MA
Postdoctoral Associate — 2009–2011
Department of Electrical Engineering & Computer Science.

EDUCATION

Massachusetts Institute of Technology, Cambridge, Massachusetts.

Ph.D. in Electrical Engineering and Computer Science, 2009
Advisor: Prof. David Karger. (GPA 5.0/5.0)
Thesis: *Strategic Algorithms*.

Cambridge University, Cambridge, United Kingdom.

Master in Mathematics (C.A.S.M. with Distinction), 2003

Harvard University, Cambridge, Massachusetts.

- M.S. in Computer Science, 2002
- B.A. in Applied Mathematics with Economics, 2002

AWARDS & HONORS

◇ Program Co-chair, The 15th Conference on Web and Internet Economics (WINE), 2019
◇ Best student paper award, Proc. of IEEE ICASSP (2018)
◇ Keynote speaker, Workshop on Dynamic Games in Management Science, Montreal, Canada (2017)
◇ Keynote speaker, Athens Colloquium on Algorithms and Complexity, Athens, Greece (2017)
◇ Keynote speaker, Workshop on Eco-friendly mobility, Zurich, Switzerland (2014).
◇ NSF CCF CAREER: Algorithms for Risk Mitigation in Networks. Award date 05/15/2014.
◇ Google Faculty Research Award, 2013.
◇ Doctoral Fellowship in the Mathematical Sciences, American Foundation for Bulgaria (2006-2007)
◇ Presidential Fellowship, MIT (2003-2004)
◇ Herchel Smith Harvard Fellowship for 1 year study at Cambridge University, England (2002-2003)
◇ John Harvard and Elizabeth Cary Agassiz Scholarship, Harvard University (1998-2002)
◇ Flora Burt Fellowship, Harvard University (for travel in Argentina) (Aug-Sep. 2001)
◇ Detur Book Prize, Harvard University (1999)
◇ Third place, Euclid Mathematical Contest, British Columbia, Canada (1997)
◇ Fifth place nationwide, Bulgarian National Mathematics Olympiad (1996)
◇ First place, Journal "Matematika" national tournament, Bulgaria (1991)

Professional Experience

IBM Research — Dublin, Ireland
Visiting Professor — Summer 2012
Worked on different projects in risk analysis and transportation.

Google Research — New York, NY
Research Intern — Summer 2007
Analyzed sponsored search auctions.

Yahoo! Research — New York, NY
Research Intern — Summer 2006
Analyzed prediction markets.

Mitsubishi Electric Research Labs — Cambridge, MA
Research Intern — Summer 2004, 2005
Developed models and algorithms for optimal routing in stochastic networks.

National Bureau of Economics Research — Cambridge, MA
Research Assistant — 1999-2001
Researched optimal consumer behavior.

Journal Publications[1]

- S. Gupta, A. Khodabakhsh, H. Mortagy, E. Nikolova. Electrical Flows over Spanning Trees. *Mathematical Programming (series B)*, to appear.
- J. Correa, C. Guzman, T. Lianeas, E. Nikolova, M. Schroeder. Network pricing: How to induce optimal flows under strategic link operators. *Operations Research*, to appear.
- T. Lianeas, E. Nikolova, Nicolas E. Stier Moses. Risk-averse selfish routing. *Mathematics of Operations Research*, vol. 44(1), pp. 38-57, 2019.
- A. Botea, A. Kishimoto, E. Nikolova, S. Braghin, M. Berlingerio, E. Daly. Computing Multi-Modal Journey Plans under Uncertainty, *Journal of Artificial Intelligence Research (JAIR)*, vol. 65, pp. 633-674, 2019.
- G. Piliouras, E. Nikolova and J. S. Shamma. Risk Sensitivity of Price of Anarchy under Uncertainty. *ACM Transactions on Economics and Computation (TEAC)*, Volume 5, Issue 1, November 2016, Article No. 5.
- E. Nikolova, N. Stier-Moses. A Mean-Risk Model for the Traffic Assignment Problem with Stochastic Travel Times. *Operations Research*, 62:2, 366.382, 2014.
- A. Hall, E. Nikolova, and C. Papadimitriou. Incentive-Compatible Interdomain Routing with Linear Utilities. *Internet Mathematics,* Volume 5, Number 4, 395-410, 2008.

Refereed Conference Publications

- J. Horn, Y. Wu, A. Khodabakhsh, E. Nikolova, E. Pountourakis. The Long-term Cost of Energy Generation. In Proceedings of ACM International Conference on Future Energy Systems (e-Energy), 2020.
- A. Khodabakhsh, J. Horn, E. Nikolova, E. Pountourakis. Prosumer Pricing, Incentives and Fairness. In Proceedings of the ACM International Conference on Future Energy Systems (e-Energy), 2019.
- R. Shafipour, A. Khodabakhsh, G. Mateos and E. Nikolova. A Directed Graph Fourier Transform with Spread Frequency Components. IEEE Transactions on Signal Processing, Volume 67, Issue 4, pp. 946-960, Feb. 15, 2019.
- E. Nikolova, G. Yang and E. Pountourakis. Optimal Mechanism Design with Risk-loving Agents. In Proceedings of the 14th Conference on Web and Internet Economics (WINE), 2018.

[1] Underlined authors are Nikolova's Ph.D. students/postdoctoral scholars.

- Jose Correa, Cristobal Guzman, Thanasis Lianeas, Evdokia Nikolova and Marc Schroeder. Network Pricing: How to Induce Optimal Flows Under Strategic Link Operators. In Proceedings of the Nineteenth ACM Conference on Economics and Computation (EC'18). Ithaca, NY, June 19-21, 2018.
- R. Cole, T. Lianeas, E. Nikolova. When Does Diversity of Agent Preferences Improve Outcomes in Selfish Routing? In Proceedings of the 27th International Joint Conference on Artificial Intelligence (IJCAI'18).
- D. Applegate, A. Archer, D. S. Johnson, E. Nikolova, M. Thorup, G. Yang. Wireless coverage prediction via parametric shortest paths. Proc. of the Nineteenth International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), Los Angeles, USA, June 26-29, 2018.
- R. Shafipour, A. Khodabakhsh, G. Mateos, and E. Nikolova. Digraph fourier transform via spectral dispersion minimization. Proc. of IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Calgary, Alberta, Canada, April 15-20, 2018. **Best student paper award.**
- A. Khodabakhsh, G. Yang, S. Basu, E. Nikolova, M. C. Caramanis, T. Lianeas, M. Pountourakis. A Submodular Approach for Electricity Distribution Network Reconfiguration. In 51st Hawaii International Conference on System Sciences (HICSS), Hawaii, USA, Jan. 3-6, 2018. **Nominated for best paper.**
- R. Shafipour, A. Khodabakhsh, G. Mateos, and E. Nikolova. A Digraph Fourier transform with spread frequency components. Proc. of IEEE Global Conf. on Signal and Information Processing, Montreal, Canada, Nov. 14-16, 2017.
- S. Basu, G. Yang, T. Lianeas, E. Nikolova, and Y. Chen. Reconciling Selfish Routing with Social Good. In Proceedings of the *10th International Symposium on Algorithmic Game Theory (SAGT)*, L'Aquila, Italy, September 12-14, 2017.
- T. Lianeas, E. Nikolova, N. E. Stier Moses. Asymptotically tight bounds for inefficiency in risk-averse selfish routing. In Proceedings of the *25th International Joint Conference on Artificial Intelligence (IJCAI'16),* New York, NY, USA, July 9-15, 2016.
- G. Yang, E. Nikolova. Approximation Algorithms for Route Planning with Nonlinear Objectives. In Proceedings of the *Thirtieth AAAI Conference on Artificial Intelligence (AAAI'16)*. Phoenix, Arizona, February 12-17, 2016.
- S. Basu, T. Lianeas, E. Nikolova. New Complexity Results and Algorithms for the Minimum Tollbooth Problem. In Proceedings of the *2015 Conference on Web and Internet Economics (WINE'15)*, Amsterdam, The Netherlands, December 9-12, 2015.
- E. Nikolova, N. Stier-Moses. The Burden of Risk Aversion in Mean-Risk Selfish Routing. In Proceedings of the *Sixteenth ACM Conference on Economics and Computation (ACM EC)*, Portland, OR, June 15-19, 2015.
- D. Hoy, E. Nikolova. Approximately Optimal Risk-averse Routing Policies via Adaptive Discretization. In Proceedings of the *Twenty-Ninth AAAI Conference on Artificial Intelligence (AAAI-15)*. Austin, TX, January 25-30, 2015.
- G. Piliouras, E. Nikolova and J. S. Shamma. Risk Sensitivity of Price of Anarchy under Uncertainty. In *Proceedings of the 14th ACM Conference on Electronic Commerce (ACM EC)*, 2013.
- J. Y. Yu and E. Nikolova. Sample Complexity of Risk-averse Bandit-arm Selection. In *Proceedings of the International Joint Conferences on Artificial Intelligence (IJCAI)*, 2013.
- A. Botea, E. Nikolova, M. Berlingerio. Multi-Modal Journey Planning in the Presence of Uncertainty. In *Proceedings of the International Conference on Automated Planning and Scheduling (ICAPS)*, 2013.
- H. Chenji, L. Smith, R. Stoleru, E. Nikolova. Raven: Energy Aware QoS Control for DRNs. In *IEEE 9th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob)*, 2013.
- S. Lim, C. Sommer, E. Nikolova, and D. Rus. Practical Route Planning Under Delay Uncertainty: Stochastic Shortest Path Queries. In *RSS - Robotics: Science and Systems VIII*, 2012.

- E. Nikolova and N. Stier-Moses. Stochastic Selfish Routing. In *Proceedings of the Fourth Symposium on Algorithmic Game Theory* (SAGT '11), Salerno, Lecture Notes in Computer Science, Springer, Berlin, 2011.
- E. Nikolova, Approximation Algorithms for Reliable Stochastic Combinatorial Optimization. In *Proceedings of 13th Intl. Workshop on Approximation Algorithms for Combinatorial Optimization Problems* (APPROX), 2010.
- E. Nikolova. High-performance heuristics for optimization in stochastic traffic engineering problems. In *Proceedings of the Seventh International Conference on Large-Scale Scientific Computing* (LSSC), 2009.
- J. Feldman, S. Muthukrishnan, E. Nikolova, M. Pal. A Truthful Mechanism for Offline Ad Slot Scheduling. In *Proceedings of the First International Symposium on Algorithmic Game Theory* (SAGT), 2008.
- A. Hall, E. Nikolova, and C. Papadimitriou. Incentive-Compatible Interdomain Routing with Linear Utilities. *Internet Mathematics,* Volume 5, Number 4 (2008), 395-410. Conference version: In *Proceedings of the 3rd International Workshop On Internet And Network Economics* (WINE), 2007.
- E. Nikolova and D. Karger. Route Planning under Uncertainty: the Canadian Traveler Problem. In *Proceedings of the Twenty-Third Conference on Artificial Intelligence* (AAAI), 2008.
- J. Kelner and E. Nikolova. On the Hardness and Smoothed Complexity of Quasi-concave Minimization. In *Proceedings of 48th Annual IEEE Symposium on Foundations of Computer Science* (FOCS), 2007.
- Y. Chen, L. Fortnow, E. Nikolova and D. Pennock. Betting on Permutations. In *Proceedings of the Eighth ACM Conference on Electronic Commerce* (ACM EC), 2007.
- E. Nikolova and R. Sami. A Strategic Model for Information Markets. In *Proceedings of the Eighth ACM Conference on Electronic Commerce* (ACM EC), 2007.
- E. Nikolova, M. Brand, and D. Karger. Optimal Route Planning under Uncertainty. In *Proceedings of 2006 International Conference on Automated Planning & Scheduling* (ICAPS), 2006.
- E. Nikolova, J. Kelner, M. Brand, M. Mitzenmacher. Stochastic Shortest Paths via Quasi-convex Maximization. In *Proceedings of 2006 European Symposium of Algorithms* (ESA), 2006.
- N. Immorlica, D. Karger, E. Nikolova, and R. Sami. First-Price Path Auctions. In *Proceedings of ACM Conference on Electronic Commerce* (ACM EC): 203-212, 2005.
- D. Karger and E. Nikolova. On the Expected Overpayment of VCG Mechanisms in Large Networks. Invited paper in *Conference on Decision and Control* (CDC), 2006. Brief Announcement in *PODC 2005*: 126. Accepted presentation to *DIMACS Workshop on Computational Issues in Auction Design*, October 2004.

OTHER PUBLICATIONS

- E. Nikolova, N. E. Stier-Moses. Stochastic Selfish Routing. *ACM SIGecom Exchanges*, 11:1, 21-25, 2012.
- Y. Chen, L. Fortnow, E. Nikolova, and D. Pennock. Combinatorial betting. *ACM SIGecom Exchanges*, 7(1), December 2007. Invited Survey.

ADDITIONAL GRANTS

◇ UT Austin Good Systems: Optimizing EMS Responses during Extreme Events (CoPI)

◇ NSF CCF 1733832: AitF: Collaborative Research: Algorithms and Mechanisms for the Distribution Grid (PI)

◇ NSF CCF 1331863: Collaborative Research: CyberSEES: Coupon Incentive-based Risk Aware Demand Response in Smart Grid (CoPI)

◇ NSF CCF 1216103: Risk Aversion in Algorithmic Game Theory and Mechanism Design (PI)

INVITED TALKS

- ◇ Sep. 24, 2020: Risk-aversion and diversity in network routing. Department of Economics and Finance, Luiss University, Rome, Italy.
- ◇ Sep 20-25, 2020: Dynamic Traffic Models in Transportation Science, Dagstuhl Seminar Invitation, Dagstuhl, Germany. Cancelled due to COVID-19.
- ◇ March 27, 2020: University of Texas at San Antonio. Cancelled due to COVID-19.
- ◇ July 25, 2019: Algorithms and mechanisms for electricity distribution networks. Workshop on Algorithms for Learning and Economics, Rhodes, Greece.
- ◇ July 4, 2019: Risk-aversion and diversity in network routing. Twenty Years of the Price of Anarchy Workshop, Chania, Greece.
- ◇ June 3, 2019: Algorithms and mechanisms for electricity distribution networks. Real-time Decision Making Reunion Workshop. Simons Institute for the Theory of Computing, Berkeley, CA.
- ◇ May 16, 2019: Risk-aversion and diversity in network routing. Computer Science Department, Texas A&M University.
- ◇ May 9, 2019: Risk-aversion and diversity in network routing. H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology.
- ◇ April 26, 2019: Risk-aversion and diversity in network routing. Computer Science Department, University of Colorado-Boulder.
- ◇ March 29, 2019: Effects of risk-aversion and diversity of user preferences on selfish routing. Computer Science Department, University of Texas at Dallas.
- ◇ February 22, 2019: Effects of risk-aversion and diversity of user preferences on selfish routing. Computer Engineering and Systems Seminar Series, Texas A&M University.
- ◇ February 14, 2019: Network Pricing: How to Induce Optimal Flows Under Strategic Link Operators, Conference on Information Theory and Applications (ITA) 2019, San Diego, CA.
- ◇ April 30th, 2018: "When Does Diversity of Agent Preferences Improve Outcomes in Selfish Routing," Mathematical and Computational Challenges in Real-Time Decision Making Workshop, Simons Institute, Berkeley, CA.
- ◇ March 28, 2018: "Risk-averse Selfish Routing," Simons Institute, Berkeley, CA.
- ◇ January 24, 2018: "A Brief Introduction to Algorithms, Game Theory and Risk-averse Decision Making," Simons Institute, Berkeley, CA.
- ◇ October 13, 2017: "Network Pricing: How to Induce Optimal Flows Under Strategic Link Operators," **Keynote Talk** at the Ninth Workshop on Dynamic Games in Management Science, HEC Montreal, Montreal, Canada.
- ◇ August 24, 2017: "Network Pricing: How to Induce Optimal Flows Under Strategic Link Operators," **Keynote Talk** at the 12th Athens Colloquium on Algorithms and Complexity (ACAC'17), Athens, Greece.
- ◇ June 21, 2017: "Network Pricing: How to Induce Optimal Flows Under Strategic Link Operators," Microsoft Research - New England, Cambridge, MA.
- ◇ May 10, 2017: "Risk-averse selfish routing," 6th Workshop on Stochastic Methods in Game Theory, Erice, Italy.
- ◇ April 20, 2017: "Network Pricing: How to Induce Optimal Flows Under Strategic Link Operators," Simons Institute for the Theory of Computing, Berkeley, CA.
- ◇ March 14, 2017: "Risk-averse selfish routing," Dagstuhl Seminar on Game Theory in AI, Logic, and Algorithms (17111), Schloss Dagstuhl, Germany.
- ◇ February 16, 2017: "Risk-averse selfish routing," Conference on Information Theory and Applications (ITA) 2015, San Diego, CA.
- ◇ June 28, 2016: "Algorithms for risk mitigation in networks," Simons Institute for the Theory of Computing, Berkeley, CA.
- ◇ October 29, 2015: "Algorithms for risk-averse routing," Google Research, Mountain View, CA.

- ◇ October 2, 2015: "The burden of risk aversion in mean-risk selfish routing," Theory seminar, Department of Computer Science, University of Southern California, Los Angeles, CA.
- ◇ September 29, 2015: "Algorithms and algorithmic game theory for risk mitigation in networks," Simons Institute, Berkeley, CA.
- ◇ August 28, 2015: "The burden of risk aversion in mean-risk selfish routing," Transportation Seminar, EECS Department, UC Berkeley, Berkeley, CA.
- ◇ May 27, 2015: "Approximation algorithms for offline risk-averse combinatorial optimization," The University of Chile, Santiago, Chile.
- ◇ April 17, 2015: "The burden of risk aversion in mean-risk selfish routing," Algorithms Seminar, The University of Texas at Austin, Austin, TX.
- ◇ March 18, 2015: "The burden of risk aversion in mean-risk selfish routing," The University of Chile, Santiago, Chile.
- ◇ February 5, 2015: "The burden of risk aversion in mean-risk selfish routing," Conference on Information Theory and Applications (ITA) 2015, San Diego, CA.
- ◇ January 20, 2015: "The burden of risk aversion in mean-risk selfish routing," Technical University of Munich, Munich, Germany.
- ◇ January 15, 2015: "The burden of risk aversion in mean-risk selfish routing," Combinatorial Optimization and Graph Algorithms (COGA) Seminar, Technical University of Berlin, Berlin, Germany.
- ◇ December 3, 2014: "The burden of risk aversion in mean-risk selfish routing," Random Structures Seminar, Dept. of Mathematics, UT Austin, Austin, TX.
- ◇ July 31, 2014: "Approximation algorithms for risk-averse combinatorial optimization," 7th workshop on Flexible Network Design, Lugano, Switzerland.
- ◇ July 2, 2014: "Approximation algorithms for risk-averse combinatorial optimization," London School of Economics, London, U.K.
- ◇ January 31, 2014: "Risk-mitigation in route planning," ORIE Seminar, UT Austin, Austin, TX.
- ◇ January 22, 2014: "Risk-mitigation in route planning," **Keynote talk** at Workshop on Eco-friendly mobility, Zurich, Switzerland.
- ◇ June 5, 2013: "Risk in network routing," IBM-Almaden, San Jose, CA.
- ◇ April 19, 2013: "Risk in network games," University of Maryland-College Park.
- ◇ April 1, 2013: "Risk in network routing games," UT Austin, Austin, TX.
- ◇ March 26, 2013: "Risk in network games," Transportation seminar, Dept. of Civil Engineering, Texas A&M University, Austin, TX.
- ◇ March 20, 2013: "Risk in routing and games," UNICAMP, Campinas, Brazil, March 2013.
- ◇ March 8, 2013: "Risk in routing and games," University of Buenos Aires, Argentina.
- ◇ October 2012: "Risk in network games," Texas Economic Theory Day, Dallas, TX.
- ◇ July 2012: "Risk in network routing," IBM Research, Dublin, Ireland.
- ◇ July 2012: "Introduction to network congestion games," Summer School on Algorithmic Game Theory, Samos, Greece.
- ◇ July 2012: "Risk in network games," Summer School on Algorithmic Game Theory, Samos, Greece.
- ◇ March 2012: "Risk in network games," Rice University, Dept. of Economics, Houston, TX.
- ◇ February 2012: "Risk in network games," Texas A&M University, Dept. of Economics, College Station, TX.
- ◇ April 2012: "Algorithms for Risk-averse Combinatorial Optimization," UT Austin, Austin, TX.
- ◇ April 2012: "Algorithms for Risk-averse Combinatorial Optimization," Rice University, Dept. of Computational and Applied Math., Houston, TX.

- ◇ February 2011: "Algorithms for Risk-averse Combinatorial Optimization," Carnegie Mellon University, Pittsburgh, PA.
- ◇ February 2011: "Algorithms for Risk-averse Combinatorial Optimization," Northwestern University, Evanston, IL.
- ◇ February 2011: "Algorithms for Risk-averse Combinatorial Optimization," Georgetown University, Washington, DC.
- ◇ March 2011: "Algorithms for Risk-averse Combinatorial Optimization," EPFL, Lausanne, Switzerland.
- ◇ March 2011: "Algorithms for Risk-averse Combinatorial Optimization," ETH, Zurich, Switzerland.
- ◇ March 2011: "Design & Computation in Prediction Markets," ETH, Zurich, Switzerland.
- ◇ March 2011: "Algorithms for Risk-averse Combinatorial Optimization," IBM, Zurich, Switzerland.
- ◇ March 2011: "Algorithms for Risk-averse Combinatorial Optimization," Google, Zurich, Switzerland.
- ◇ April 2010: "From Stochastic Shortest paths to Quasi-concave Minimization," Massachusetts Institute of Technology, Cambridge, MA.
- ◇ July 2009: "Design & Computation in Prediction Markets," University of Girona, Girona, Spain.
- ◇ May 2009: "From Stochastic Shortest paths to Quasi-concave Minimization," State University of New York at Stony Brook, Stony Brook, NY.
- ◇ April 2009: "Design & Computation in Prediction Markets," Cornell University, Ithaca, NY.
- ◇ February, 2009: "Strategic algorithms," Georgia Institute of Technology, Atlanta, GA.
- ◇ July 2008: "Design & Computation in Prediction Markets," GAMES–Third World Congress of the Game Theory Society, Chicago, IL.
- ◇ March, 2008: "Strategic algorithms," Duke University, Durham, NC.
- ◇ January, 2008: "Strategic algorithms," Microsoft Research, Seattle, WA.
- ◇ December 2007: "From Stochastic Shortest paths to Quasi-concave Minimization," Stanford University Algorithms Seminar, Stanford, CA.
- ◇ December 2007: "Design & Computation in Prediction Markets," Microsoft Research, Mountain View, CA.
- ◇ December 2007: "From Stochastic Shortest paths to Quasi-concave Minimization," IBM Almaden, San Jose, CA.
- ◇ November 2007: "Design & Computation in Prediction Markets," Microsoft Research, Redmond, WA.
- ◇ November 2007: "From Stochastic Shortest paths to Quasi-concave Minimization," University of Wisconsin-Madison Theory Colloquium, Madison, WI.
- ◇ October 2007: "Design & Computation in Prediction Markets," Dartmouth University, Computer Science Colloquium, Hanover, NH.
- ◇ October 2007: "From Stochastic Shortest paths to Quasi-concave Minimization," Dartmouth University CS Theory Colloquium, Hanover, NH.
- ◇ October 2007: "From Stochastic Shortest paths to Quasi-concave Minimization," Rensselaer Polytechnic Institute CS Theory Colloquium, Troy, NY.
- ◇ December 2006: "From Stochastic Shortest paths to Quasi-concave Minimization," MIT Algorithms and Complexity Seminar, Cambridge, MA.
- ◇ December 2006: "From Stochastic Shortest paths to Quasi-concave Minimization," University of California, San Diego. Seminar on Theory and Algorithms Research.

PROFESSIONAL SERVICE

◇ **Editorial Board**: Mathematics of Operations Research (January 1, 2019–present)

◇ **Program Co-chair**: Conference on Web and Internet Economics (WINE) 2019.

◇ **Program Committees**:

- European Symposium of Algorithms (ESA) 2017.
- ACM Conference on Economics and Computation (EC) 2018, 2017, 2014, 2013, 2012, 2010.
- Conference on Artificial Intelligence (AAAI) 2017, 2016, 2013.
- International World Wide Web Conference (WWW) 2017, 2012.
- Conference on Web and Internet Economics (WINE) 2015.

◇ **Program/Workshop Co-organizer**:

- Real-time Decision Making Reunion Workshop, June 3-5, 2019, Simons Institute for the Theory of Computing, Berkeley CA.
- Simons semester on "Real-time Decision Making", Spring 2018, Simons Institute for the Theory of Computing, Berkeley CA.
- Workshop on "Mathematical and Computational Challenges in Real-Time Decision Making", Apr. 30—May 4, 2018, Simons Institute for the Theory of Computing, Berkeley CA. (as part of the Simons semester on "Real-time Decision Making")
- Workshop on "Real-Time Decision Making", Jun. 27—Jul. 1, 2016, Simons Institute for the Theory of Computing, Berkeley CA.
- Winedale workshop, Winedale, TX, Oct. 17, 2014 with theme "Algorithmic Game Theory".
- "Workshop on Risk Aversion in Algorithmic Game Theory and Mechanism Design" as part of ACM Conference on Electronic Commerce (EC), Valencia, Spain, June 7, 2012.

◇ **Invited session organizer**: International Symposium on Mathematical Programming (ISMP)—July 2015, August 2012, August 2009; INFORMS Buenos Aires, Argentina, June 2010.

◇ **Grant Reviewer**: NSF Panelist (April 2015, January 2014, April 2012); NSF STC (Science and Technology Centers) Competition, October 2012; FONDECYT (NSF equivalent in Chile), November 2011.

◇ **Paper Reviewer** for:
Journals: SIAM Journal of Computing, Theoretical Computer Science, Algorithmica, ACM Transactions on Economics and Computation (TEAC), Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS), Operations Research, Operations Research Letters, Mathematical Programming, Mathematics of Operations Research, Transportation Science, IEEE Transactions on Automatic Control.
Conferences: ACM Symposium on Theory of Computing (STOC), ACM-SIAM Symposium on Discrete Algorithms (SODA), ACM Conference on Economics and Computation (EC), Conference on Web and Internet Economics (WINE), International Symposium on Algorithmic Game Theory (SAGT), International Colloquium on Automata, Languages and Programming (ICALP), International Symposium on Theoretical Aspects of Computer Science (STACS), ACM Symposium on Parallel Algorithms and Architectures (SPAA), Conference on Decision and Control (CDC), MIT Oxygen Student Conference.

ADVISING

Postdocs

◇ Bo Li (postdoc, 2020), currently Assistant Professor in the Department of Computing of The Hong Kong Polytechnic University.

◇ Emmanouil (Manolis) Pountourakis (postdoc, 2017-2019), currently Assistant Professor of computer science at the College of Computing and Informatics at Drexel University.

◇ Thanasis Lianeas (postdoc, 2015-2017), currently Lecturer at the National Technical University of Athens and the Athens University of Economics and Business, Greece.

Graduated PhD Students

◇ Ger Yang (PhD, 2018), currently at Google.

◇ Soumya Basu (PhD, 2020), currently at Google.

OUTREACH

◇ **Edison Lecture Series**: Co-taught lectures "Computing for Green" to over 1,000 middle-school and high-school students at UT Austin on Feb.11-12, 2016.

◇ **Camp Texas**: Spoke to pre-freshmen coming to UT Austin about research, college life and various other topics. Camp Balcones Springs, Texas, August 17, 2014; August 18, 2015; August 16, 2016.

TEACHING & MENTORING

Simons Institute for the Theory of Computing Berkeley, CA

◇ Mentor for doctoral student Sofya Vorotnikova (Spring 2019)

◇ (Reading group organizer) Mechanism Design for the Smart Grid (Fall 2015)

University of Texas at Austin Austin, TX

◇ (Undergraduate) EE 360C: Algorithms (Fall 2020, Fall 2017; Fall 2016; Fall 2014)

◇ (Graduate) EE 381V: Advanced Algorithms (Spring 2020, Spring 2017; Spring 2015)

◇ (Graduate) EE 381V: Game Theory (Spring 2019; Spring 2014)

Texas A&M University College Station, TX

◇ (Undergraduate) CSCE 411H: Design and Analysis of Algorithms (Spring 2013)

◇ (Graduate) CSCE 629: Analysis of Algorithms (Fall 2012)

◇ (Graduate) CSCE 689: Special Topics in Algorithmic Game Theory (Spring 2012, Fall 2013)

◇ (Graduate) CSCE 689: Special Topics in Stochastic and Risk-averse Optimization (Fall 2011)

Massachusetts Institute of Technology Cambridge, MA

◇ *Guest Lecturer* on potential games, course "Game Theory and Mechanism Design." (Spring 2006)

◇ *Teaching Assistant* for "Game Theory and Mechanism Design." (Spring 2005)

Harvard University Cambridge, MA

◇ *Teaching Fellow* for CS 124, "Introduction to Data Structures and Algorithms." (Spring 2002).

◇ *Teaching Assistant* for Math E-9, "Functions and Graphs." (Spring 2001, Fall 2002).

◇ *Tutor* for Calculus, Linear Algebra, Economics, Probability Theory and Statistics (1999-2002).

Research Science Institute (RSI) Cambridge, MA
[*in collaboration with* **MIT** *to promote research among talented high school students worldwide*]

Research Mentor to:

◇ Yifei Chen for his paper "Overpayment in Strategyproof Payment Schemes." (Summer 2004)

◇ Fatima-Ezzahra Izma for her paper "Independent Sets in Special Types of Graphs." (Summer 2005)

PATENTS AND APPLICATIONS

- E. Nikolova, M. Brand, M. Mitzenmacher. *Method for finding optimal paths using a stochastic network model*, US Patent No. 7,573,866. Filed: Aug. 30, 2006. Issued: Aug. 11, 2009.

- E. Nikolova, M. Brand. Method for finding minimal cost paths under uncertainty. U.S. Application. Pub No. US20080025222. Filed: 07/26/2006. Published: 01/31/2008.
- Y. Chen, E. Nikolova, D. Pennock. System and method for permutation betting. U.S. Application. Pub No. 20080220855. Published: 9/11/2008.
- J. Feldman, S. Muthukrishnan, M. Pal, Evdokia V. Nikolova. Content Item Slot Scheduling. U.S. Application. Pub No. 20100049644. Published: 2/25/2010.