

# Yash Kanoria

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Updated Jan 2022

CONTACT	981 Kravis Hall Columbia University New York, NY 10027	<i>Phone:</i> (650) 353-0476 <i>ykanoria@columbia.edu</i> <i>http://www.columbia.edu/~yk2577</i>
FIELD OF SPECIALIZATION	Marketplace design and optimization especially for matching markets, dynamic resource allocation. With a background in operations research and operations management, engineering, computer science and economics.	
EDUCATION	<b>Stanford University</b> , Stanford, CA PhD, Electrical Engineering, 2012 <i>Advisor:</i> Andrea Montanari <i>Dissertation title:</i> Learning in social and economic networks (unpublished)	Sep 2007 - Aug 2012
	<b>Indian Institute of Technology Bombay</b> , India (CPI 10.00/10.00) Bachelor of Technology in Electrical Engineering, 2007	Jul 2003 - May 2007
ACADEMIC APPOINTMENTS	Associate Professor of Business (with tenure) Sidney Taurel Associate Professor of Business Assistant Professor of Business Decision, Risk and Operations Division, Columbia University, Graduate School of Business	2021 - present 2017 - 2021 2013 - 2017
	Schramm postdoctoral fellow Microsoft Research New England, Cambridge, MA.	Aug 2012 - June 2013
PROFESSIONAL EXPERIENCE	Schramm postdoctoral fellow Microsoft Research New England, Cambridge, MA	Aug 2012 - Jun 2013
	Summer Intern Microsoft Research New England, Cambridge, MA	Summer 2010 and Summer 2011
	Summer Intern (high-frequency algorithmic trading) D.E. Shaw & Co, Cupertino, CA	Summer 2008
	Summer Intern (algorithmic trading) Goldman Sachs Group, Inc., Bangalore, India & New York, NY	Summer 2007
TEACHING EXPERIENCE	B9122-001: (PhD/MS) Computing For Business Research, Columbia GSB B9122-002: (PhD) Computing For Business Research, Columbia GSB	Fall 2013
	B9122-001: (MS/PhD) Computing For Business Research, Columbia GSB	Fall 2014
	B6101-001: Business Analytics, Columbia GSB B6101-002: Business Analytics, Columbia GSB B6101-003: Business Analytics, Columbia GSB	Spring 2015
	B6101-001: Business Analytics, Columbia GSB B6101-002: Business Analytics, Columbia GSB B6101-003: Business Analytics, Columbia GSB	Spring 2016

B6101-001: Business Analytics, Columbia GSB	Spring 2017
B6101-002: Business Analytics, Columbia GSB	
B6101-003: Business Analytics, Columbia GSB	
B9135-001: (PhD) Engineering Online Matching Markets, Columbia GSB	
B6101-001: Business Analytics, Columbia GSB	Fall 2017
B6101-003: Business Analytics, Columbia GSB	
B6101-006: Business Analytics, Columbia GSB	
B6101-007: Business Analytics, Columbia GSB	
B9137-001: (PhD) DRO Topics Seminar	Fall 2018
B5101-001: Business Analytics, Columbia GSB	Spring 2019
B5101-002: Business Analytics, Columbia GSB	
B5101-003: Business Analytics, Columbia GSB	
B9144-001: (PhD) Statistical Physics, Markets and Algorithms, Columbia GSB	Fall 2019
B5101-003: Business Analytics, Columbia GSB	Spring 2020
B5101-004: Business Analytics, Columbia GSB	
B9137-001: (PhD) DRO Topics Seminar	
B9148-001: (PhD) Frontiers in Online & Random Optimization	Fall 2021
B5101(4 sections): Business Analytics, Columbia GSB	Spring 2022

DOCTORAL  
DISSERTATION  
COMMITTEE  
SERVICE

Pengyu Qian, Assistant Professor at Purdue Krannert School of Business, (PhD advisor.)

- Dissertation: *Online Decision Making in Networked Marketplaces*. (2021).

Jiaqi Lu, Assistant Professor at CUHK Shenzhen School of Data Science, (PhD advisor.)

- Dissertation: *Managing Stochastic Uncertainty in Dynamic Marketplaces*. (2021).

Amine Allouah, Research Scientist at Facebook Research, Core Data Science team. (Dissertation Committee Member.)

- Dissertation: *Optimal Auctions and Pricing with Limited Information*. (2019).

Francisco Castro, Assistant Professor, Anderson School of Management, UCLA (from Fall 2020, currently postdoc at Uber). (Dissertation Committee Member.)

- Dissertation: *The Operations and design of markets with spatial and incentive considerations*. (2019).

Irene Lo, Assistant Professor, Management Science & Engineering, Stanford University (from Fall 2019, currently postdoc in Stanford Economics with Al Roth). (Mentor and coauthor on job market paper).

- Dissertation: *Designing and Optimizing Matching Markets*. (2018).
- Received faculty job offers from Cornell Tech, MIT Sloan OR, Georgiatech, and other places, besides Stanford.

Vashist Avadhula, Research Scientist, Core Data Science, Facebook. (Dissertation Committee Member.)

- Dissertation: *The MNL-Bandit Problem: Theory and Applications*. (2018).

Itai Feigenbaum, Assistant Professor of Mathematics and Computer Science, City University of New York, Lehman College. (Coauthor and Dissertation committee member.)

- Dissertation: *Optimization in strategic environments*. (2016).

DOCTORAL  
STUDENT  
MENTORSHIP

Past PhD students: Pengyu Qian, Jiaqi Lu Past postdoc: Abhinav Sinha

Current PhD students: Judy Gan and Akshit Kumar. Current postdoc: Yilun Chen

I have previously worked with DRO PhD student Utkarsh Patange, and with the following academics/researchers when they were PhD students: Nick Arnosti (Stanford MS&E), Itai Feigenbaum (Columbia IEOR), Vijay Kamble (postdoc at Stanford MS&E), Irene Lo (Columbia IEOR), Seungki Min (Columbia DRO), Daniela Saban (Columbia DRO), Peng Shi (MIT Sloan), Xuan Zhang (Columbia IEOR).

PUBLICATIONS

*Authorship order in operations management and related fields including economics, computer science and operations research, is conventionally alphabetic by last name.*

JOURNAL PAPERS  
(PEER REVIEWED)

15. Y. Kanoria and D. Saban, "Facilitating the Search for Partners on Matching Platforms," *Management Science*, 67(10), 2021.
14. R. Johari, V. Kamble, and Y. Kanoria, "Matching while Learning," *Operations Research*, 69(2), 2021.
13. Y. Kanoria and H. Nazerzadeh, "Incentive-compatible Learning of Reserve Prices For Repeated Auctions," *Operations Research*, 69(2), 2021.
12. I. Feigenbaum, Y. Kanoria, I. Lo and J. Sethuraman, "Dynamic Matching in School Choice: Efficient Seat Reallocation After Late Cancellations," *Management Science*, 66(11), 4921-5484, 2020.
11. I. Ashlagi, M. Braverman, Y. Kanoria and P. Shi, "Clearing matching markets efficiently: informative signals and match recommendations," *Management Science*, 66(5), 2163–2193, 2020.
10. N. Arnosti, R. Johari and Y. Kanoria, "Managing congestion in matching markets," *Manufacturing and Service Operations Management*, special issue on Sharing Economy and Innovative Marketplaces, 23(3), 2021.
9. S. Baswana, P. P. Chakrabarti, S. Chandran, Y. Kanoria and U. Patange, "Centralized admissions for engineering colleges in India," *INFORMS Journal on Applied Analytics*, 49(5), pp. 338-354, special issue for finalists for the 2018 Daniel H. Wagner Prize for Excellence in Operations Research Practice.
8. Y. Kanoria, D. Saban and J. Sethuraman, "The size of the core in random assignment markets," *Operations Research*, 66(3):597-892, 2018.
7. R. Anderson, I. Ashlagi, D. Gamarnik, and Y. Kanoria, "Efficient dynamic barter exchange," *Operations Research*, 65(6), 1446-1459, 2017.
6. I. Ashlagi, Y. Kanoria and J. Leshno, "Unbalanced random matching markets: the stark effect of competition," *Journal of Political Economy*, 125(1), Feb 2017.
5. M. Bayati, C. Borgs, J. Chayes, Y. Kanoria, and A. Montanari, "Bargaining dynamics in exchange networks," *Journal of Economic Theory*, Vol. 156, pp. 417–454, March 2015.
4. M. Ibrahimi, Y. Kanoria, M. Kraning and A. Montanari, "The Set of Solutions of Random XORSAT Formulae," *Annals of Applied Probability*, Vol. 25, No. 5, Sep 2015.
3. Y. Kanoria and A. Montanari, "Majority dynamics on trees and the dynamic cavity method," *Annals of Applied Probability*, Vol. 21, No. 5, Oct 2011.

2. Y. Kanoria and A. Montanari, "Optimal coding for the deletion channel with small deletion probability," *IEEE Transactions on Information Theory*, Vol. 59, No. 10, pp. 6192-6219, Oct. 2013.
1. Y. Kanoria and O. Tamuz, "Tractable Bayesian Social Learning," *IEEE Journal on Selected Areas in Communication*, Vol. 31, No. 4, pp. 756-765, April 2013.

WORKING PAPERS

- Y. Kanoria and P. Qian, "Blind Dynamic Resource Allocation in Closed Networks via Mirror Back-pressure," major revision at *Management Science*.
- S. Banerjee, Y. Kanoria and P. Qian, "Dynamic Assignment Control of a Closed Queueing Network under Complete Resource Pooling".
- Y. Kanoria, I. Lobel and J. Lu, "Managing Customer Churn Via Service Mode Control".
- Y. Kanoria, S. Min and P. Qian, "Which random matching markets exhibit a stark effect of competition?".
- N. Immorlica, Y. Kanoria, and J. Lu, "When does competition and costly information acquisition lead to a deadlock?" working paper.
- Y. Kanoria, J. Gan, and X. Zhang, "Local algorithms for dynamic optimization in networks," manuscript in progress.

PEER REVIEWED  
CONFERENCE  
PAPERS

- Y. Kanoria, S. Min and P. Qian, "Which random matching markets exhibit a stark effect of competition?" *ACM-SIAM Symp. on Discrete Algorithms (SODA)*, 2020.
- Y. Kanoria and P. Qian, "Blind Dynamic Resource Allocation in Closed Networks via Mirror Back-pressure," *ACM Conference on Economics and Computation (EC)*, 2020.
- S. Baswana, P. P. Chakrabarti, S. Chandran, Y. Kanoria and U. Patange, "Centralized admissions for engineering colleges in India," *ACM Conference on Economics and Computation (EC)*, 2019.
- S. Banerjee, Y. Kanoria and P. Qian (2017), "State Dependent Control of Closed Queueing Networks," *ACM SIGMETRICS*, 2018.
- R. Johari, V. Kamble, and Y. Kanoria, "Matching while Learning," *ACM Conference on Economics and Computation (EC)*, 2017.
- I. Ashlagi, M. Braverman, Y. Kanoria and P. Shi, "Communication Requirements and Informative Signaling in Matching Markets," *ACM Conference on Economics and Computation (EC)*, 2017.
- Y. Kanoria and D. Saban, "Facilitating the search for partners on matching platforms: restricting agent actions," *ACM Conference on Economics and Computation (EC)*, 2017.
- Itai Feigenbaum, Yash Kanoria, Irene Lo and Jay Sethuraman, "Dynamic Matching in School Choice: Efficient Seat Reallocation After Late Cancellations," *Conference on Web and Internet Economics (WINE)*, 2016.
- Y. Kanoria, D. Saban and J. Sethuraman, "The size of the core in random assignment markets." *ACM-SIAM Symp. on Discrete Algorithms (SODA)*, 2015.
- Y. Kanoria and H. Nazerzadeh, "Dynamic Reserves For Repeated Auctions: Learning from Bids," *Conference on Web and Internet Economics (WINE)*, 2014.
- N. Arnosti, R. Johari and Y. Kanoria, "Managing search in decentralized matching markets," *ACM Conference on Economics and Computation (EC)*, 2014.

- I. Ashlagi, Y. Kanoria and J. D. Leshno, “Unbalanced random matching markets,” *ACM Conference on Economics and Computation (EC)*, 2013.
- Y. Kanoria and O. Tamuz, “Tractable Bayesian Social Learning on Trees,” *IEEE Intl. Symposium on Information Theory (ISIT)*, 2012.
- M. Ibrahimi, Y. Kanoria, M. Kranning and A. Montanari, “The Set of Solutions of Random XORSAT Formulae,” *ACM-SIAM Symp. on Discrete Algorithms (SODA)*, 2012.
- Y. Kanoria, A. Montanari, D. Tse and B. Zhang, “Distributed Storage for Intermittent Energy Sources: Control Design and Performance Limits,” *Annual Allerton Conf. on Communication, Control and Computing*, 2011.
- Y. Kanoria and A. Montanari, “Subexponential convergence for information aggregation on regular trees,” *IEEE Conf. on Decision and Control and European Control Conf. (CDC-ECC)*, 2011.
- Y. Kanoria, “A FPTAS for Bargaining Networks with Unequal Bargaining Powers,” *Conference on Web and Internet Economics (WINE)*, 2010.
- Y. Kanoria, M. Bayati, C. Borgs, J. Chayes and A. Montanari, “Fast Convergence of Natural Bargaining Dynamics in Exchange Networks,” *ACM-SIAM Symp. on Discrete Algorithms (SODA)*, 2011.
- Y. Kanoria and A. Montanari, “On the deletion channel with small deletion probability,” *IEEE Intl. Symposium on Information Theory (ISIT)*, 2010, Student Paper Award.
- Y. Kanoria, S. Mitra and A. Montanari, “Statistical Static Timing analysis using Markov chain Monte Carlo,” *Design, Automation and Test in Europe (DATE)*, 2010.
- C. Dutta, Y. Kanoria, D. Manjunath and J. Radhakrishnan, “A Tight Lower Bound for Parity in Noisy Communication Networks,” *ACM-SIAM Symposium on Discrete Algorithms (SODA)*, 2008.
- Y. Kanoria and D. Manjunath, “On Distributed Computation in Noisy Random Planar Networks,” *IEEE Intl. Symp. on Information Theory (ISIT)*, 2007.

#### GRANTS AND FUNDING

“Design of Matching Markets” NSF CAREER Award, National Science Foundation, USA. 2017-2022. Principal Investigator. Award amount: \$500,000.

“Centralized seat allocation for engineering colleges in India” Jerome A. Chazen Institute of International Business grant. 2015-16. Principal Investigator. Award amount: \$10,000.

#### HONORS AND AWARDS

Finalist for the Wagner Prize for Excellence in OR Practice	2018
National Science Foundation CAREER Award	2017
Simons-Berkeley Research Fellowship	Fall 2015
INFORMS JFIG Junior Faculty Paper Award (second prize)	2014
Student Paper Award at IEEE Intl. Symposium on Information Theory	2010
Numerical Technologies Founders’ Prize for top score on the EE PhD Qualifying Examination at Stanford	2008
President of India Gold Medal at IIT Bombay for standing first in the institute	2007
Gold Medal and second overall at the International Physics Olympiad	2003
Gold Medal and second overall at the International Chemistry Olympiad	2003
Ranked 2nd at the All India IIT Joint Entrance Examination	2003

PROFESSIONAL  
SERVICE &  
ACTIVITIES

Associate Editor (since Aug 2016), Operations Research.

Senior Program Committee member for ACM Conference on Economics and Computation (EC), in 2019 and again in 2020. Area Chair for ACM EC in 2021. PC member for ACM EC in 2022.

Meritorious Service Award, 2013, Operations Research.

Program Committee member for the World Wide Web conference (WWW), 2013, and ACM Conference on Economics and Computation, 2016, 2017 and 2018. Reviewer for the MSOM conference in 2016 and 2018.

Reviewer for Management Science, Operations Research, Mathematics of Operations Research, Manufacturing and Service Operations Management, Econometrica, Review of Economic Studies, Probability Theory and Related Fields, Random Structures and Algorithms, Stochastic Systems, Annals of Applied Probability, Economic Theory, Games and Economic Behavior, Theoretical Economics, American Economic Journal: Microeconomics, Automatica, SIAM Journal on Discrete Mathematics, IEEE Trans. on Information Theory, IEEE Trans. on Automatic Control, ACM Transactions on Algorithms, Electronic Journal of Probability, Internet Mathematics, IEEE Trans. on Computers and IEEE Trans. on Communications. ACM-SIAM Symp. on Economics and Computation, ACM Symp. on Theory of Computing, ACM-SIAM Symp. on Discrete Algorithms, Conference on Web and Internet Economics, Symp. on Algorithmic Game Theory, IEEE Intl. Symp. on Information Theory, Information Theory Workshop, Performance, IEEE Conf. on Decision and Control, Intl. Conf. on VLSI design, and Intl. Workshop on Algorithms and Computation.

Organizer of “Marketplace Algorithms and Design,” a weekly online seminar along with Gagan Goel and Daniela Saban, during June-August 2020.

Co-organized a workshop on “Platform Markets” with Steve Tadelis at the Simons Institute for the Theory of Computing in UC Berkeley, September 2019. The workshop was part of the “Online and Matching-Based Market Design” program in Fall 2019.

Organized a tutorial entitled “Backpressure: A Network Control Approach to Running Marketplaces” at the ACM Conference on Economics and Computation 2019.

Director of the DRO division’s PhD program since Fall 2018.

Served on school-wide committees on Data Science, and on the RA and summer internship programs, in 2018.

Co-organizer of weekly DRO-IEOR seminar at Columbia from Spring 2017 to Spring 2018.

Organized a weekly “Learning and market design” seminar series at Simons Institute, Fall 2015, as part of Economics and Computation program.

Organized a “Reverse Field Trip” involving speakers from local companies on Nov 9, 2015, at Simons Institute, as part of Economics and Computation program.

Professional Affiliations:

INFORMS 2011 - present  
Association for Computing Machinery 2007 - present

INVITED TALKS &  
PRESENTATIONS

**Survey: Online matching markets**  
Dagstuhl Seminar on “Matching Under Preferences: Theory and Practice” 2021

**Dynamic Spatial Matching**  
SNAPP seminar 2021  
Columbia Econ theory seminar 2021

INFORMS Annual meeting	2021
Stanford Market Design seminar	2021

**Competition and search frictions in (random) matching markets**

(Co-authors: I. Ashlagi, J. Leshno, S. Min, & P. Qian)

MSO seminar, London Business School	Oct 2020
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**Near Optimal Control of a Ride-Hailing Platform via Mirror Backpressure**

(Co-author: P. Qian)

OIDD seminar, Wharton	Oct 2020
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EE seminar, IIT Bombay	Aug 2019
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*Coauthor talks:*

Kellogg-Wharton OM Workshop	2020
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INFORMS Annual meeting	2019
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INFORMS Applied Probability Society conference	2019
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MSOM Annual Conference	2019
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Marketplace Innovation workshop	2019
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**State Dependent Control of Ride-Hailing Systems**

(Co-authors: S. Banerjee & P. Qian)

Plenary: Marketplace Innovation workshop, Stanford, CA	June 2019
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Workshop on Machine Learning and User Decision Making, Institut Henri Poincare, Paris, France	May 2019
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Chicago Booth School of Business brown bag seminar, Chicago, IL	Feb 2019
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Kellogg School of Management Operations seminar, Evanston, IL	Feb 2019
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CMU Tepper School of Business OM seminar, Pittsburgh, PA	Jan 2019
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Duke Fuqua School of Business Decision Sciences seminar, Durham, NC	Nov 2018
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Yale School of Management, OM seminar, New Haven, CT	Nov 2018
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GeorgiaTech ISyE seminar, Atlanta, GA	Oct 2018
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Cornell ORIE seminar, Ithaca, NY	Sep 2018
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Uber, Marketplace data science team, San Francisco, CA	Jun 2018
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Lyft, Marketplace data science team, San Francisco, CA	Jun 2018
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DiDi (visiting team including head of research), Columbia U, New York, NY	Jun 2018
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Ola, Data science team, Bangalore, India & San Francisco, CA (via Google Hangout)	Apr 2018
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Columbia University Math Finance seminar, New York, NY	Mar 2018
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Microsoft Research, Theory lunch, Redmond, WA	Jan 2018
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*Coauthor talks (partial list):*

INFORMS Applied Probability Society conference	2019
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INFORMS Annual meeting	2018
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MSOM Annual Conference	2018
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Marketplace Innovation Workshop	2018
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ACM SIGMETRICS conference	2018
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INFORMS Annual Meeting	2017
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**Centralized admissions for engineering colleges in India**

(Co-authors: S. Baswana, P. P. Chakrabarti, S. Chandran, & U. Patange)

INFORMS Annual Meeting (session for Wagner prize finalists), Phoenix, AZ	Nov 2018
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NBER Market Design workshop, Stanford, CA	Oct 2018
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Revenue Management and Pricing section conference, Toronto, Canada	Jun 2018
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*Coauthor talks (partial list):*

Institute lecture, IIT Bombay  
IIT Kanpur

### **Managing Customer Churn via Service Mode Control**

(Co-authors: I. Lobel & J. Lu)

*Coauthor talks:*

INFORMS Annual meeting	2019
INFORMS Annual Meeting	2018
MSOM Conference	2018
MSOM Conference	2017
INFORMS Annual Meeting	2017

### **Dynamic Matching in School Choice: Efficient Seat Reallocation After Late Cancellations**

(Co-authors: I. Feigenbaum, I. Lo & J. Sethuraman)

INFORMS Annual Meeting, Phoenix, AZ	Nov 2018
Revenue Management and Pricing section conference, Toronto, Canada	Jun 2018
INFORMS Annual meeting, Philadelphia, PA	Nov 2015

*Coauthor talks:*

Plenary, ACM Symposium on the Theory of Computing, TheoryFest (2018) POMS 29th Annual Conference (2018) Northwestern IEMS (2018) Stanford MS&E (2018) Cornell Tech (2018) Princeton ORFE (2018) JHU Carey (2018) Chicago Booth (2017) Duke Fuqua (2017) Yale SOM (2017) Microsoft Research (2017) Google Research (2017) Facebook (2017) Caltech SISL (2017) Purdue Krannert (2017) MIT Sloan (2017) Cornell ORIE (2017) Georgia Tech ISyE (2017) HKUST (2017) NUS (2017) Workshop for Young Researchers - Cornell ORIE (2017) INFORMS Annual Meeting (2017) INFORMS APS Meeting (2017) MSOM Conference (2017) Fourth International Workshop on Matching Under Preferences (2017) IFORS Conference (2017) Conference on Web and Internet Economics (2016) INFORMS Annual Meeting (2016) University of Montreal, Economics (2018) Workshop on the Internet and Network Economics (2014)

### **Incentive-compatible learning of reserve prices for repeated auctions**

(Co-author: H. Nazerzadeh)

INFORMS Annual meeting, Phoenix, AZ	Nov 2018
INFORMS Annual meeting, Houston, TX	Oct 2017
Market Algorithms seminar, Google, NYC	Jul 2017
Algorithmic Game Theory and Data Science workshop (in ACM EC), Cambridge, MA	Jun 2017
Marketplace Innovation Workshop, Stanford, CA	Jun 2017

*Coauthor talks:*

MDML workshop at WWW 2019 (2019) MSOM Conference (2015) INFORMS Applied Probability Society Conference (2015) Conference on Web and Internet Economics (2014) Ad Auction Workshop (2014)

### **Facilitating the search for partners on matching platforms**

(Co-author: D. Saban)

IIM Ahmedabad seminar	2021
Foster School of Business, Univ of Washington, WA	Feb 2020
Simons Institute for the Theory of Computing, UC Berkeley, CA	Sep 2019
Semi-plenary: Stony Brook International Conference on Game Theory, NY	July 2019
Winter OM Conference, Snowbird, UT	Feb 2019
INFORMS Annual meeting, Houston, TX	Oct 2017
INFORMS Applied Probability Society Conference, Northwestern U	Jul 2017
MSOM Conference, UNC Chapel Hill	Jun 2017



ACM conference on Economics and Computation	Jun 2017
Chicago Booth Operations Workshop	May 2017
Airbnb, Data Science team, San Francisco, CA	Apr 2017
Market Design workshop, Columbia University	Mar 2017
DRO Brown bag lunch, Columbia Business School	Mar 2017
MIT ORC seminar	Feb 2017
Networks, Matching, and Platforms workshop, Denver, CO	Jan 2017
Operations Management Seminar, USC Marshall School of Business	Oct 2016
<i>Coauthor talks:</i>	
Cornell Johnson School of Business	2018
Caltech SSIL	2018
Harvard Business School, Technology and Operations Management	2018
Wharton School, Economics, UPenn	2017
Marketplace Innovation Workshop	2017
Stanford Graduate School of Business, Operations, Information and Technology	2017
Simons Institute, UC Berkeley	2017
Marketplace Innovation Workshop	2017
INFORMS Annual meeting	2016

### **Clearing matching markets efficiently: informative signals and match recommendations**

(Co-authors: I. Ashlagi, M. Braverman & P. Shi)

INFORMS Annual Meeting, Phoenix, AZ	Nov 2018
INFORMS Applied Probability Society Conference, Northwestern U	Jul 2017
Rutgers/DIMACS theory seminar	Feb 2017
INFORMS Annual Meeting, Nashville, TN	Nov 2016

*Coauthor talks:*

ACM conference on Economics and Computation (2017) American Economic Association Annual meeting (2019) Marketplace Innovation Workshop (2017) Columbia University Economic Theory workshop (2017) CIREQ Montreal Microeconomic Theory Conference (2016) ACM Conference on Economics and Computation (EC) (2017) MATCH-UP Conference (2017) INFORMS Annual Meeting (2017)

### **Matching while Learning**

(Co-authors: R. Johari and V. Kamble)

INFORMS Revenue Management and Pricing conference	Jun 2016
DRO Brown bag lunch, Columbia Business School	Mar 2016
Statistics student seminar, Columbia University	Mar 2016
Upwork, Data science team, Mountain View, CA	Oct 2015

*Coauthor talks:*

Army Research Lab (ARL) Workshop on Holistic Scene Understanding (2019) Workshop on Information Theory and Applications (ITA) Plenary (2018) Allerton Conference on Communication, Control, and Computing (2017) ISOM workshop, University of Florida (2018) Operations and Logistics research seminar, UBC Sauder School of Business (2017) IDS seminar, University of Illinois at Chicago (2017) MSOM conference (2017) INFORMS Applied Probability Society Conference (2017) ACM Conference on Economics and Computation (2017) SOAL Seminar, Stanford University (2016)

### **Competition and choice in matching markets**

(Co-authors: I. Ashlagi, M. Braverman, J. Leshno & P. Shi)

OR seminar, Stanford Graduate School of Business	Nov 2015
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### **Matching markets: structure, dynamics and design (survey)**

EconCS survey seminar, Simons Institute, UC Berkeley	Oct 2015
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## Unbalanced random matching markets

(Co-authors: I. Ashlagi & J. Leshno)

ACM Conference on Economics and Computation	Jun 2015
Workshop on Graphical Models, Statistical Inference, & Algorithms, IMA, Minnesota	May 2015
CS seminar, IIT Kharagpur, India	Jan 2015
OM seminar, Rotman School of Management	Oct 2014
CS-Econ seminar, Duke University	Oct 2014
CS Theory seminar, Columbia University	Sep 2014
OM seminar, NYU Stern School of Business	Sep 2014
NYC Market design workshop, Columbia University	Dec 2013
Google Algorithms seminar, Google, New York	Nov 2013
IIT Bombay, Mumbai, India	Aug 2013
Tata Institute of Fundamental Research, Mumbai, India	Jul 2013
Stochastics and Applications seminar, MIT	Apr 2013
Microsoft Research Theory Group Seminar, Redmond, WA	Mar 2013

*Coauthor talks (partial list):*

Matching in Practice, Paris, France (2016) Industrial Engineering, University of Chile (2016) Algorithmic Economics Seminar, CMU (2015) Operations Management, Yale SOM (2015) Computer Science, Theory seminar, Stanford (2015) Marketplace Innovation Workshop (2015) Advances in market design, Paris, France (2014) Market Design summer school, Institute for advanced studies, Hebrew University (2014) Decentralization Conference, Stanford (2014) NSF/CEME/NBER Mathematical Economics Conference, Columbia (2013)

## Managing congestion in dynamic matching markets

(Co-authors: N. Arnosti & R. Johari)

Columbia Business School Alumni Club of the Bay Area, San Francisco	Sep 2015
Econometric Society World Congress, Montreal, Canada	Aug 2015
Tata Institute of Fundamental Research, Mumbai, India	Jul 2015
INFORMS Applied Probability Society Conference, Istanbul, Turkey	Jul 2015
NYCE (NY Computer Science and Economics) Day	Dec 2014
Theory seminar, USC Economics	Nov 2014
Bray Theory Workshop, Caltech HSS	Nov 2014

*Coauthor talks (partial list):*

ACM Conference on Economics and Computation (2016). Midway Market Design Workshop, University of Chicago, Plenary (2014) Mostly OM: Workshop on Advanced Topics in Operations Management, Plenary (2014) SIAM Conference on Financial Mathematics and Engineering (2014) Allerton Conference for Communication, Control, and Computing (2014) Stanford University; Department of Management Science and Engineering, Operations Research Seminar, and Graduate School of Business, Operations, Information, and Technology Seminar (joint seminar) (2014) University of Southern California, Marshall School of Business; Operations Management Seminar (2014) New York University, Stern School of Business; Information, Operations, and Management Sciences (IOMS) Seminar (2014)

## Efficient dynamic barter exchange

(Co-authors: R. Anderson, I. Ashlagi & D. Gamarnik)

Market design seminar, Stanford Economics	Dec 2015
MSOM Conference, U Washington, Seattle	Jun 2014
Columbia Statistics student seminar	Nov 2013
Probability seminar, University of Chicago	Nov 2013
INFORMS Annual Meeting	Oct 2013
Workshop on Asymptotics of Large Scale Networks, BIRS, Banff, Canada	Mar 2013

*Coauthor talks:*

ACM-SIAM Symposium on Discrete Algorithms (SODA) (2015) INFORMS Annual Meeting (2014) Industrial Engineering, University of Pittsburgh (2013) Technology and Operations, Ross School of Business, University of Michigan (2013) Operations and Logistics Division, Sauder School of Business, The University of British Columbia (2013) MIT OR Seminar (Best student paper prize presentation) (2013) INFORMS Annual Meeting (2013) INFORMS Annual Meeting (2012) INFORMS APS (2013) Stochastic Networks Conference (Poster only) (2012) Google Research Seminar (2015) Graduate School of Business, Stanford (2015) Industrial Engineering and Management Sciences Seminar, North-Western University (2014) Industrial and Systems Engineering Seminar, Penn State University (2014) Industrial and System Engineering Seminar, University of Illinois at Urbana-Champaign (2014)

### **Convergence of the core in assignment markets**

(Co-authors: D. Saban & J. Sethuraman)

*Coauthor talks:*

ACM-SIAM Symp. on Discrete Algorithms (SODA) (2015)

### **The set of solutions of random XORSAT formulae**

(Co-authors: M. Ibrahimi, M. Kraning & A. Montanari)

Probability seminar, Brown University Feb 2013

Stanford probability seminar Oct 2012

MIT probability seminar Sep 2012

*Coauthors talks:*

Beyond Worst Case Analysis (BWCA) workshop, Stanford (2011) ACM-SIAM Symp. on Discrete Algorithms (SODA) (2012)

### **Bargaining dynamics in exchange networks**

(Co-authors: M. Bayati, C. Borgs, J. Chayes & A. Montanari)

ECE seminar, UCSD Mar 2012

ECE seminar, Cornell Mar 2012

EE seminar, UIUC Feb 2012

ELE/Applied Math seminar, Princeton Feb 2012

ORIE, Cornell Feb 2012

DRO seminar, Columbia GSB Jan 2012

MSR Redmond Jan 2012

MSR New England Jan 2012

OR seminar, MIT Sloan Jan 2012

NCD seminar, EECS, UC Berkeley Jan 2012

Microsoft Research India Jan 2012

ECE, University of Maryland Nov 2011

Markets & Social Systems Engineering seminar, UPenn Nov 2011

INFORMS Annual meeting, Charlotte, NC Nov 2011

IEOR seminar, IIT Bombay, India Jan 2011

Econ-CS seminar, UC Berkeley Apr 2010

Algorithms and Complexity seminar, MIT Mar 2010

CS Theory Lunch, Stanford Jan 2010

*Coauthor talks (partial list):*

Several talks, including plenaries/keynotes

### **Distributed storage for intermittent energy sources**

(Co-authors: A. Montanari, D. Tse & B. Zhang)

INFORMS Annual meeting, Phoenix, AZ Oct 2012

Information, Decisions and Algorithms meeting, Stanford Oct 2011

Allerton conference, UIUC

Sep 2011

**Social learning and the dynamic cavity method**

(Co-author: O. Tamuz)

INFORMS Applied Probability Society meeting, Stockholm, Sweden	Jul 2011
Research on Algorithms for the Internet (RAIN) seminar, Stanford	Feb 2011
Workshop on Recent Trends in Social Networks, TIFR, Mumbai, India	Jan 2011
Theory lunch, Microsoft Research Redmond, Redmond, WA	Dec 2010
Microsoft Research New England Colloquium, Cambridge, MA	Nov 2010

**Majority dynamics on trees and the dynamic cavity method**

(Co-author: A. Montanari)

Dept. of Electrical Engineering, IIT Bombay, India	Jun 2009
Tata Institute of Fundamental Research, Mumbai, India	Jun 2008
Workshop on Message Passing, Phase Transitions and Hard Combinatorial Problems, BIRS, Banff, Canada	Jun 2008

OUTSIDE ACTIVITIES Member of the Council of Advisors of the Platform Cooperativism Consortium (PCC) since Sep 2020.

Successfully proposed a new method for seat allocation in engineering colleges in India. Subsequently served as a member of the Technical committee, responsible for designing the mechanism and algorithm for joint seat allocation/admissions for over 30,000 seats at 88 centrally funded engineering colleges in India including the Indian Institutes of Technology, National Institutes of Technology etc. The mechanism was implemented successfully in summer 2015, and again, with further improvements suggested by me, in 2016, 2017, 2018 and 2019.

Regular conversations with data scientists at Airbnb, Upwork, Uber, Lyft, Ola, DiDi, and other sharing economy platforms. Seminar presentations (unpaid) to these companies, most recently Ola, DiDi, Lyft and Uber. Also, conversations with the New York City Department of Education regarding school choice.

Research collaboration with Wayfair, Inc. (unpaid) from 2018-2020.