Kira Goldner

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APPOINTMENTS:

Columbia University, New York, NY   July 2019 – Present
NSF Mathematical Sciences Postdoctoral Research Fellow
Data Science Institute Postdoctoral Fellow
Host: Tim Roughgarden

The Simons Institute, Berkeley, CA   Aug. 2019 – Oct. 2019
Research Fellow
Program: Online and Matching-Based Market Design

EDUCATION:

University of Washington, Seattle, WA   2014 – 2019
Ph.D. in Computer Science and Engineering
Dissertation: Mechanism Design for a Complex World: Rethinking Standard Assumptions
Advisor: Anna Karlin
Masters in Computer Science and Engineering   2016
Advisor: Anna Karlin

Oberlin College, Oberlin, OH   2010 – 2014
Bachelor of Arts: Mathematics Major, Computer Science Minor

Budapest Semesters in Mathematics, Budapest, Hungary   Fall 2013
Honors, Study Abroad

RESEARCH INTERESTS:

My interests lie in algorithmic mechanism design and approximation, in particular, in (1) mechanism design for social good, e.g. within health insurance and online labor markets, (2) maximizing revenue in settings that are motivated by practice, and (3) relaxing traditional assumptions (e.g. known priors or risk-neutrality).

AWARDS, SCHOLARSHIPS, AND DISTINCTIONS:

NSF Mathematical Sciences Postdoctoral Research Fellowship	2019
Columbia Data Science Institute Postdoctoral Fellowship	
Microsoft Research PhD Fellowship	2017
Facebook Fellowship Finalist	
UW Society for Women Engineers Evening with Industry Outstanding Female Award	
Google Anita Borg Memorial Scholarship	2016
NSF Graduate Research Fellowship Program: Honorable Mention	
National Defense in Science and Engineering Fellowship: Alternate Selectee	
NSF Graduate Research Fellowship Program: Honorable Mention	2015
Phi Beta Kappa	2014
NSF S-STEM Scholar in Computation and Modeling at Oberlin College	2012
John F. Oberlin merit scholarship for $25,000 annually for four years (top level awarded)	2010

PUBLICATIONS:

Optimal Mechanism Design for Single-Minded Agents, with Nikhil R. Devanur, Raghuvansh R. Saxena, Ariel Schvartzman, and S. Matthew Weinberg. In *Proceedings of the 21st ACM Conference on Economics and Computation* (EC 2020).

Reducing Inefficiency in Carbon Auctions with Imperfect Competition, with Nicole Immorlica and Brendan Lucier. In *Proceedings of the 11th Conference on Innovations in Theoretical Computer Science* (ITCS 2020).

Bulow-Klemperer-Style Results for Welfare-Maximization in Two-Sided Markets, with Moshe Babaioff and Yannai A. Gonczarowski. In *Proceedings of the 31st ACM-SIAM Symposium on Discrete Algorithms* (SODA 2020).

Combinatorial Auctions with Interdependent Valuations: SOS to the Rescue, with Alon Eden, Michal Feldman, Amos Fiat, and Anna R. Karlin. In *Proceedings of the 20th ACM Conference on Economics and Computation* (EC 2019).
Best Paper with a Student Lead Author.

Simple and Approximately Optimal Pricing for Proportional Complementarities, with Yang Cai, Nikhil R. Devanur, and R. Preston McAfee. In *Proceedings of the 20th ACM Conference on Economics and Computation* (EC 2019).

When to Limit Entry Under Mandatory Purchase, with Meryem Essaidi and S. Matthew. In *the 3rd Workshop on Mechanism Design for Social Good* (MD4SG 2019).

Mechanism Design for Social Good, with Rediet Abebe. In *ACM SIGAI AI Matters, 4.3, October 2018*.

Interdependent Values without Single-Crossing, with Alon Eden, Michal Feldman, and Amos Fiat. In *Proceedings of the 19th ACM Conference on Economics and Computation* (EC 2018).

Revenue Maximization with an Uncertainty-Averse Buyer, with Shuchi Chawla, J. Benjamin Miller, and Emmanouil Pountourakis. In *Proceedings of the 29th ACM-SIAM Symposium on Discrete Algorithms* (SODA 2018).

A Report on the Workshop on Mechanism Design for Social Good, with Rediet Abebe. In *ACM SIGecom Exchanges, 16.2, June 2018*.

A Prior-Independent Revenue-Maximizing Auction for Multiple Additive Bidders, with Anna Karlin. In *Proceedings of the 12th Conference on Web and Internet Economics* (WINE 2016).

The FedEx Problem, with Amos Fiat, Anna Karlin, and Elias Koutsoupias. In *Proceedings of the 17th ACM Conference on Economics and Computation* (EC 2016).

Minimal Partial Languages and Automata, with F. Blanchet-Sadri and Aidan Shackleton. In *Proceedings of the 19th International Conference on Implementation and Applications of Automata* (CIAA 2014).

Different Optimal Solutions in Shared Path Graphs, with Sean McCulloch. In *Proceedings of the 2012 Midstates Conference for Undergraduate Research in Computer Science and Mathematics* (MCURCSM 2012).

WORKSHOP, TUTORIAL, AND RESEARCH GROUP ORGANIZATION:

Tutorial on the Menu Size of Precise and Approximate Revenue-Maximizing Auctions   June 2018
Organizer and Presenter, with Yannai A. Gonczarowski at ACM-EC, Ithaca, NY

The 2nd Workshop on Mechanism Design for Social Good   June 2018
Organizer and PC Chair, with Rediet Abebe at ACM-EC, Ithaca, NY

Tutorial on Mechanism Design for Social Good   Dec. 2017
Organizer and Presenter, at WINE, Bangalore, India

The 1st Workshop on Mechanism Design for Social Good   June 2017
Organizer and PC Chair, with Rediet Abebe at ACM-EC, Cambridge, MA

The Mechanism Design for Social Good research group   2016-2018
Organizer and Co-Founder, with Rediet Abebe

RESEARCH INTERNSHIPS AND LONG-TERM VISITS:

Visitor, Microsoft Research Herzliyah, hosted by Moshe Babaioff	Dec. 2018 – Jan. 2019
Research Intern, Microsoft Research New England, hosted by Brendan Lucier	Summer 2018
Visitor, Tel Aviv University, hosted by Michal Feldman and Amos Fiat	Nov. 2017 – Mar. 2018
Visitor, Princeton University, hosted by Matt Weinberg	Oct. – Nov. 2017
Research Intern, Microsoft Research Redmond, hosted by Nikhil Devanur	Summer 2017
Visitor, Tel Aviv University, hosted by Michal Feldman and Amos Fiat	Jan. – Feb. 2017
Visitor, University of Wisconsin-Madison, hosted by Shuchi Chawla	Oct. – Nov. 2016
Visitor, The Simons Institute, hosted by the Algorithms & Uncertainty Semester	Aug. – Sept. 2016
Visitor, The Simons Institute, hosted by the Economics & Computation Semester	Fall 2015
Undergraduate Research Assistant, UNC Greensboro NSF REU, hosted by Francine Blanchet-Sadri	Summer 2013
Undergraduate Research Assistant, Oberlin College, hosted by Robert Bosch	Spring 2013
Undergraduate Research Assistant, Ohio Wesleyan NSF REU, hosted by Sean McCulloch	Summer 2012

INVITED WORKSHOPS:

Young Researcher Workshop on Economics and Computation, Tel Aviv University, Israel	Jan. 2020
Workshop on Algorithms for Learning and Economics, Rhodes, Greece	July 2019
Plenary Speaker at Data Science for Social Good Workshop, Georgia Tech, Atlanta, GA	Apr. 2019
Northwestern Quarterly Theory Workshop, Evanston, IL	Nov. 2018
Bellairs Workshop on Algorithmic Game Theory, Holetown, Barbados	Apr. 2018
Heidelberg Laureate Forum, Heidelberg, Germany	Sept. 2017
Greece Economic and Algorithmic Theory Week, Ikaria, Greece	July 2017
Young Researcher Workshop on Economics and Computation, Tel Aviv University, Israel	Jan. 2017
Women in Theory Workshop, Berkeley, CA	May 2016
CRA-W Grad Cohort Conference, San Francisco, CA	Apr. 2015

INVITED TALKS:

Reducing Inefficiency in Carbon Auctions with Imperfect Competition

Innovations in Theoretical Computer Science, Seattle, WA	Jan. 2020
Young Researcher Workshop on Economics and Computation, Tel Aviv University, Israel	Jan. 2020
Social Responsibility of Algorithms Interdisciplinary Workshop, Paris, France	Dec. 2020
Marketplace Innovation Workshop, Palo Alto, CA	June 2019
Data Science for Social Good Workshop, Atlanta, GA	Apr. 2019

Mechanism Design for Social Good

Technion Game Theory Playtime Seminar, Haifa, Israel	Dec. 2019
Washington University CS Department Colloquia Series, St. Louis, MO	Nov. 2019
Workshop on Algorithms for Learning and Economics, Rhodes, Greece	July 2019

Mechanism Design under Interdependent Valuations

MIT Algorithms and Complexity Seminar, Cambridge, MA	Oct. 2019

Simple and Approximately Optimal Pricing for Proportional Complementarities

Minisymposium on Algorithmic Game Theory at CANADAM, Vancouver, BC, Canada	May 2019
Hebrew University of Jerusalem Computation and Economics Seminar, Jerusalem, Israel	Jan. 2019
INFORMS Annual Meeting, Phoenix, AZ	Nov. 2018

Interdimensional Mechanism Design

Northwestern Quarterly Theory Workshop, Evanston, IL	Nov. 2018
UW Allen School Colloquium, Seattle, WA	Oct. 2018
AmosFest, Tel Aviv, Israel	Nov. 2017

Optimal Mechanism Design for Single-Minded Agents

INFORMS Annual Meeting, Phoenix, AZ	Nov. 2018
Georgia Tech ACO Student Seminar, Atlanta, GA	Apr. 2018
UW Theory Seminar, Seattle, WA	Apr. 2018
Hebrew University of Jerusalem Computation and Economics Seminar, Jerusalem, Israel	Jan. 2018
Tel Aviv University Algorithms Seminar, Tel Aviv, Israel	Dec. 2017

Interdependent Values without Single-Crossing

Bellairs Workshop on Algorithmic Game Theory, Barbados	Apr. 2018

The FedEx Problem

Princeton Mechanism Design Reading Group, Princeton, NJ	Oct. 2017
Conference of the International Federation of Operational Research Societies, Quebec, Canada	July 2017
STOC Workshop on Bayesian Mechanism Design, Montreal, Canada	June 2017
Hebrew University of Jerusalem Lo Letzitot Seminar, Jerusalem, Israel	Jan. 2017
Weizmann Institute Foundations of Computer Science Seminar, Rehovot, Israel	Jan. 2017
Young Researcher Workshop on Economics and Computation, Tel Aviv, Israel	Jan. 2017
UW-Madison Theory Seminar, Madison, WI	Nov. 2016
Microsoft Research Theory Seminar, Redmond, WA	Oct. 2016
UC Berkeley Theory Lunch, Berkeley, CA	Sept. 2016
Stanford University Theory Lunch, Palo Alto, CA	Sept. 2016
ACM Conference on Economics and Computation, Maastricht, Netherlands	July 2016
Google Scholar's Retreat, Mountain View, CA	June 2016
UW Theory Seminar, Seattle, WA	May 2016

Revenue Maximization with an Uncertainty-Averse Buyer

Microsoft Research Theory Lunch, Redmond, WA	Sept. 2017
UW Theory Lunch, Seattle, WA	May 2017

A Prior-Independent Revenue-Maximizing Auction for Multiple Additive Bidders

Conference on Web and Internet Economics, Montreal, Canada	Dec. 2016

UW Theory Seminar, Seattle, WA   Jan. 2016

Incentives and the Bitcoin Protocol
Heidelberg Laureate Forum: Workshop on Transactions and Blockchains, Heidelberg, Germany   Sept. 2017
UW CSE Women's Day, Seattle, WA   Jan. 2016
UW CSE Women's Day, Seattle, WA   May 2015
CRA-W Grad Cohort, San Francisco, CA   Apr. 2015

Minimal Partial Language and Automata
Conference on Implementation and Application of Automata, Germany   July 2014

Different Optimal Solutions in Shared Path Graphs
Midstates Conference for Undergraduate Research in Computer Science and Mathematics   Nov. 2012
5 Colleges of Ohio Summer Research Symposium   July 2012

SERVICE AND OUTREACH:

Program Committee for EC '20, Tackling Climate Change with Machine Learning at ICLR 2020, WINE '20   2020

External Reviewer for GEB, FOCS '20   2020

Program Committee for AAAI '20, EC '19, NetEcon '19, MD4SG '19 (Theory area chair)   2019

External Reviewer for JACM, JAIR, SODA '20, FOCS '19   2019

Program Committee for AIES '19   2018

External Reviewer for TEAC, STOC '19, ITCS '19, SODA '19, WINE '18, ESA '18   2018

Member, PhD Admissions Committee, University of Washington CSE   2017 – 2019

External Reviewer for STOC '18, SODA '18, WINE '17, ESA '17, ICALP '17   2017

External Reviewer for IPCO '17, STACS '17, SODA '17, WINE '16, EC '16   2016

Co-Chair, Graduate Women's Organization, University of Washington CSE   2015 – 2016

Co-Chair, Graduate Prospective Student Committee, University of Washington CSE

Founder and Mentor, Mentoring Program for Undergraduate Women, University of Washington CSE

Member, Graduate Prospective Student Committee, University of Washington CSE   2014 – 2015

Founder and Co-Chair, Women in Math and Computer Science, Oberlin College   Spring 2014

TEACHING ASSISTANTSHIPS:

Applied Algorithms (Professional Masters Program), University of Washington   Spring 2015

Foundations of Computing II, University of Washington   Fall 2014

Theory of Computer Science, Oberlin College   Spring 2014

Introduction to Computer Science, Oberlin College   Spring 2013

Introduction to Computer Science, Oberlin College   Spring 2012