Computing & Data Sciences
Boston University
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Kira Goldner

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APPOINTMENTS:

Shibulal Family Career Development Assistant Professor　　　　　July 2021 – Present
Faculty of Computing & Data Sciences
Boston University, Boston, MA

Postdoctoral Research Fellow　　　　　July 2019 – June 2021
NSF Division of Mathematical Sciences and Columbia Data Science Institute
Columbia University, New York, NY
Host: Tim Roughgarden

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

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 *mechanism design for social good*, including (1) developing to the theoretical foundations of this area and (2) addressing domain-specific questions in this area, e.g. within health insurance and carbon markets. In addition, I am interested in core challenges in algorithmic mechanism design, e.g., within (3) rethinking standard behavioral and informational assumptions and (4) foundational revenue maximization problems beyond single-parameter.

AWARDS, SCHOLARSHIPS, AND DISTINCTIONS:

Shibulal Family Career Development Professorship 2021-24	2021
ACM-EC Best Presentation by a Student or Postdoctoral Researcher	2020
NSF Mathematical Sciences Postdoctoral Research Fellowship	2019
Columbia Data Science Institute Postdoctoral Fellowship	
ACM-EC Best Paper with a Student Leader Author	
Simons Institute Research Fellowship for Online and Matching Based Market-Design	
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

CONFERENCE PUBLICATIONS:

Private Interdependent Valuations, with Alon Eden and Shuran Zheng. In *Proceedings of the 33rd ACM-SIAM Symposium on Discrete Algorithms* (SODA 2022).

On Multi-Dimensional Gains from Trade Maximization, with Yang Cai, Steven Ma, and Mingfei Zhao. In *Proceedings of the 32nd ACM-SIAM Symposium on Discrete Algorithms* (SODA 2021).

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).
Best Presentation by a Student or Postdoctoral Researcher.

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).

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 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).

JOURNAL PUBLICATIONS:

Combinatorial Auctions with Interdependent Valuations: SOS to the Rescue, with Alon Eden, Michal Feldman, Amos Fiat, and Anna R. Karlin. Accepted to *Mathematics of Operations Research*.

Minimal Partial Languages and Automata, with F. Blanchet-Sadri and Aidan Shackleton. In *RAIRO – Theoretical Informatics and Applications*, Volume 51, Number 1, 2017.

PREPRINTS, WORKSHOP PUBLICATIONS, AND BULLETINS:

Non-Adaptive Matroid Prophet Inequalities, with Shuchi Chawla, Anna R. Karlin, and J. Benjamin Miller. *Preprint* 2020.

A Report on YoungEC '19. In *ACM SIGecom Exchanges, 18.1, July 2020*.

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*.

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

GRANTS:

NSF Award #2228610   10/2022 – 3/2023

Project Title: Economic Resiliency through Mechanism Design and Secure Computing: MainStreetPulse: An Early Warning Platform for Monitoring and Supporting Main Street Businesses

Role: PI; joint with Mayank Varia (BU), Ziba Cranmer (BU), and Langdon White (BU)

Amount: $50k

NSF Mathematical Sciences Postdoctoral Research Fellowship Award #1903037   7/2019 – 6/2021

Project Title: Mechanism Design for Social Good

Role: PI

Amount: $150k

RESEARCH MENTORING:

Freddy Reiber   09/2022-Present

Interests: mechanism design without money

Bhushan Suwal   05-12/2022

Interests: algorithmic fairness, strategic agents

TEACHING:

Boston University DS 320: Algorithms for Data Science

Undergraduate course on algorithmic design and analysis with additional focus on techniques for big data, new self-developed course

40 students   Spring 2023

6 students, instructor rating 4.5/5.0   Spring 2022

Boston University DS 574: Algorithmic Mechanism Design

Ph.D. level course on Algorithmic Mechanism Design, new self-developed course

15 students, instructor rating 4.42/5.0   Fall 2022

RESEARCH INTERNSHIPS AND LONG-TERM VISITS:

Visitor, Microsoft Research Herzliyah, hosted by Moshe Babaioff   Winter 2019

Research Intern, Microsoft Research New England, hosted by Brendan Lucier   Summer 2018

Visitor, Tel Aviv University, hosted by Michal Feldman and Amos Fiat   Winter 2017, Winter–Spring 2018

Visitor, Princeton University, hosted by Matt Weinberg   Oct.–Nov. 2017

Research Intern, Microsoft Research Redmond, hosted by Nikhil Devanur   Summer 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

INVITED TALKS:

Private Interdependent Valuations

CIREQ Montreal Microeconomic Theory Conference, Montreal, CA   Oct. 2022

Mechanism Design for Social Good

TCS+ Online Seminar, Virtual   May 2021

Toyota Technical Institute of Chicago Colloquium, Virtual   Mar. 2021

Boston University Faculty of CDS Colloquium, Virtual   Mar. 2021

Rutgers CS Department Colloquium, Virtual   Mar. 2021

University of Maryland CS Department Colloquium, Virtual   Feb. 2021

Ben Gurion University CS Department Colloquium, Virtual   Feb. 2021

Bar Ilan University CS Department Colloquium, Virtual   Jan. 2021

Georgia Tech School of CS Colloquium, Virtual   Jan. 2021

Northeastern School of CS Colloquium, Virtual   Jan. 2021

Cornell Operations Research and Industrial Engineering Colloquium, Virtual   Jan. 2021

Tel Aviv University Colloquium, Virtual   Jan. 2021

IDC Herzliya Colloquium, Virtual   Dec. 2020

Columbia Data Science Institute Data & Society Council, Virtual   Dec. 2020

NYU Tandon CS Department Seminar, Virtual   Oct. 2020

Worcester Polytechnic Institute CS Department Colloquia Series, Virtual   Sept. 2020

Data Science Institute and Data for Good Scholars Weekly Meetup Series, Columbia, Virtual   July 2020

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
Data Science for Social Good Workshop, Georgia Tech, Atlanta, GA   Apr. 2019

Interdependent Valuations: Beyond Single-Crossing and Single-Item
1st Annual SIGecom Winter Meeting, Virtual   Mar. 2021
MIT Algorithms and Complexity Seminar, Cambridge, MA   Oct. 2019
Stanford Theory Seminar, Palo Alto, CA   May 2019

Maximizing Gains From Trade in Two-Sided Markets

Online and Matching-Based Market Design Reunion, Simons Institute, Virtual	Mar. 2021
Weizmann Theory Seminar, Virtual	Jan. 2021
Israel Algorithmic Game Theory Seminar, Virtual	Dec. 2020
INFORMS Annual Meeting, Virtual	Nov. 2020
University of Maryland CATS Lecture Series, Virtual	Oct. 2020
Harvard TOC Seminar, Virtual	Sept. 2020

Optimal Mechanism Design for Single-Minded Agents

Conference on Web and Internet Economics, Virtual	Dec. 2020
ACM Conference on Economics and Computation, Virtual	June 2020
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

Interdimensional Mechanism Design

STOC TCS Women Spotlight Workshop "Rising Star" Talk, Virtual	June 2020
Northwestern Quarterly Theory Workshop, Evanston, IL	Nov. 2018
UW Allen School Colloquium, Seattle, WA	Oct. 2018
AmosFest, Tel Aviv, Israel	Nov. 2017

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. 2019
Marketplace Innovation Workshop, Palo Alto, CA	June 2019
Plenary Talk, Data Science for Social Good Workshop, Atlanta, GA	Apr. 2019

Simple and Approximately Optimal Pricing for Proportional Complementarities

ACM Conference on Economics and Computation, Phoenix, AZ	June 2019
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

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

PROFESSIONAL SERVICE AND OUTREACH:

Co-Creator of the Women-in-TCS Information

Initiative from the Committee for the Advancement of Theoretical Computer Science (CATCS)	2022

Executive Committee

The ACM Conference on Equity in Algorithms, Mechanisms, and Optimization (EAAMO, by MD4SG)	2021-23

Tutorial Organizer and Presenter

On the Menu Size of Precise and Approximate Revenue-Maximizing Auctions at EC, Ithaca, NY	June 2018
On Mechanism Design for Social Good, at WINE, Bangalore, India	Dec. 2017

Workshop Organizer

Co-Organizer, The 2nd Workshop on Algorithms for Learning and Economics (WALE '22)	June 2022
Social Chair, ACM Conference on Economics and Computation (EC '21)	July 2021
Steering Committee, The 4th Workshop on Mechanism Design for Social Good	Aug. 2020
Co-Organizer and PC Chair, The 2nd Workshop on Mechanism Design for Social Good	June 2018
Co-Organizer and PC Chair, The 1st Workshop on Mechanism Design for Social Good	June 2017

Initiative Co-Founder and Organizer

The Mechanism Design for Social Good Initiative	2016-2018

A multi-institutional, interdisciplinary research initiative working to improve access to opportunity for historically undeserved and disadvantaged communities.

Program Committees and Reviewing

Program Committee for SODA '23	2022

External Reviewer for ISF, Schmidt Futures

Program Committee for ITCS '22, FORC '21, EC '21   2021

External Reviewer for STOC '22, FC '22, SAGT '21

Program Committee for ITCS '21, EC '20, WINE '20, Tackling Climate Change with ML at ICLR 2020   2020

Ambassador for Global Challenges in Economics and Computation

External Reviewer for GEB, SODA '21, FOCS '20

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

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

Program Committee for AIES '19   2018

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

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

INTERNAL ACTIVITIES:

Boston University Faculty of Computing and Data Sciences

Member, Faculty Interview Committee   2022 – 2023

Member, PhD Admissions Committee

Member, PhD Admissions Committee   2021 – 2022

Member, Tenure-Track Hiring Committee

Columbia University Department of Computer Sciences

Member, Bits for Justice addressing Systemic Anti-Black Racism   2020

University of Washington School of Computer Science and Engineering

Member, PhD Admissions Committee   2017 – 2019

Co-Chair, Graduate Women's Organization   2015 – 2016

Co-Chair, Graduate Prospective Student Committee

Founder and Mentor, Mentoring Program for Undergraduate Women

Member, Graduate Prospective Student Committee   2014 – 2015