

Johannes Brüstle

October 2023
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EDUCATION

PhD: London School of Economics, Sept. 2020 - expected Sept. 2024
Program: Mathematics
Advisors: Paul Dütting and László Vég

Master of Science: McGill University, Sept. 2017 – Dec. 2019
Program: Computer Science
Advisors: Yang Cai and Adrian Vetta

Bachelor of Science: McGill University, Sept. 2013 – May 2017
Program: Joint Honours Math and Computer Science

RESEARCH

I am broadly interested in *Algorithmic Game Theory*, more specifically mechanism design, fair division, posted price mechanisms and prophet inequalities. I am currently also working on *Optimization in ML*, on better understanding the structure of submodular functions.

Publications

Under submission

- The Competition Complexity of Prophet Inequalities
Johannes Brüstle, Jose Correa, Paul Dütting, Tomer Ezra, Michal Feldman, Victor Verdugo

Published or in press

- Approximating Gains from Trade in Two-sided Markets via Simple Mechanisms
Johannes Brüstle, Yang Cai, Fa Wu, Mingfei Zhao
ACM Conference on Economics and Computation (EC 2017)
- Multi-Item Mechanisms without Item-Independence: Learnability via Robustness
Johannes Brüstle, Yang Cai, Constantinos Daskalakis
ACM Conference on Economics and Computation (EC 2020)
- One Dollar Each Eliminates Envy
Johannes Brüstle, Jack Dippel, Vishnu V. Narayan, Mashbat Suzuki, Adrian Vetta
ACM Conference on Economics and Computation (EC 2020)
- Price manipulability in first-price auctions
Johannes Brüstle, Paul Dütting, Balasubramanian Sivan
The ACM Web Conference (WWW 2022)
- The competition complexity of dynamic pricing
Johannes Brüstle, Jose Correa, Paul Dütting, Victor Verdugo
ACM Conference on Economics and Computation (EC 2022)

SELECTED PRESENTATIONS

Robust Auctions and Uniform Convergence
Presented at the LSE Student Seminar (Fall 2020)

Price manipulability in first-price auctions
at the ACM Web Conference 2022:
https://www.youtube.com/watch?v=c4r5Y_eWKCA

The competition complexity of dynamic pricing
at Economics and Computation 2022:
https://www.youtube.com/watch?v=_q4-xobai6U

AWARDS

NSERC Undergraduate Summer Research Award with Prof. Maxime Descoteaux
(University of Sherbrooke)
May-August 2014

Graduate Excellence Award in Computer Science
September 2017 - August 2018

NSERC Graduate Scholarship Master's program
September 2017 - August 2018

LSE PhD Studentship
September 2020 - September 2024

TEACHING ASSISTANTSHIPS

Algorithm Design at McGill	September 2017 - April 2018
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Further Quantitative Methods at LSE	January 2021 - April 2021
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Optimization at LSE	January 2022 - April 2022
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Introduction to Abstract Mathematics at LSE	August 2022 - April 2023
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SERVICES

External Reviewer at Economics and Computation (EC 2021)

External Reviewer at Symposium on Algorithmic Game Theory at (SAGT 2022)

Program Chair at Learning with Strategic Agents Workshop (LSA 2022)

Reviewer for Transactions on Economics and Computation (TEAC 2022)

Reviewer at Symposium On Discrete Algorithms (SODA 2023)

Program Chair at Economics and Computation (EC 2023)

SKILLS

Languages:

Fluent in German, English, French.

Proficiency in Python and Latex.