

# Johannes Brüstle

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## EDUCATION

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

Master of Science: McGill University, Sept. 2017 – Dec. 2019  
Program: Computer Science

PhD: London School of Economics, Sept. 2020 -  
Program: Mathematics

## RESEARCH

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

### Publications

*Published or in press*

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

*Under submission*

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

## SELECTED PRESENTATIONS

Approximation of single-variable Weighted Finite Automata  
Presented to a McGill internal committee as one of the Summer Research Projects  
(Summer 2016) under supervision of Prof. Prakash Panangaden.

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](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](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
Further Quantitative Methods at LSE	January 2021 - April 2021
Optimization at LSE	January 2022 - April 2022
Introduction to Abstract Mathematics at LSE	August 2022 - April 2023

## **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.