

# Johannes Brüstle

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October 2023  
Columbia House, London, WC2A 2AE  
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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

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](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 |
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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.