

# Julien Vaes

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## Experience

- 10/2021 – 12/2022 **Postdoctoral Research Assistant**, UNIVERSITY COLLEGE LONDON, London, UK.  
Subject: Optimisation under uncertainty for hydrogen-led decarbonisation strategies.
- 10/2017 – 10/2022 **Doctoral Student**, THE ALAN TURING INSTITUTE, London, UK.
- 10/2018 – 10/2021 **Tutor/Teaching assistant (Continuous Optimisation; Integer Programming; Networks)**, UNIVERSITY OF OXFORD, Oxford, UK.
- 09/2015 – 09/2017 **Teaching assistant (Numerical Methods; Mathematics)**, UNIVERSITÉ CATHOLIQUE DE LOUVAIN, Louvain-la-Neuve, Belgium.
- 06/2016 – 08/2016 **Internship**, N-SIDE, Louvain-la-Neuve, Belgium.  
As member of the IT department, I have worked on a geographical decomposition algorithm for the European day-ahead electricity market.
- 01/2015 – 06/2015 **Teacher**, LA MAISON DES SCIENCES, Châtenay-Malabry, France.  
Helping students from an education priority area (EPA) to catch up on the national school program.
- 06/2014 – 08/2014 **Placement operator**, LHOIST, Jemelle, Belgium.

## Education

- 2017 – 2022 **Doctor of Philosophy in Mathematics**, *University of Oxford*, UK.  
Subject: Risk-averse Nash equilibria for power trading with market frictions.
- 2015 – 2017 **MSc in Applied Mathematics**, *Université catholique de Louvain*, Belgium.  
Grade: Summa cum laude.
- 2013 – 2015 **MSc in Engineering**, *École Centrale de Paris*, France.  
GPA = 4.04/4.33.
- 2014 – 2015 **BSc in Applied Economics**, *Université Paris-Dauphine*, France.  
Grade: Magna cum laude.
- 2011 – 2013 **BSc in Applied Mathematics/Mechanics**, *Université catholique de Louvain*, Belgium.  
Grade: Magna cum laude.

## Honors and Awards

- 2014 Education merit award granted by the ASSOCIATION DES CENTRALIENS to 15 students for academic excellence and contribution to student associations of the École Centrale. Awarded full tuition.
- 2011 Education merit award DE BREMAECKER-STOCKHEM (Belgium), based on the academic results of the first year of Bachelors.

## Languages

Native French  
Fluent English, Dutch

## Software

Proficient Git, Java, Julia, Latex, Matlab, Python  
Intermediate AMPL, C, Microsoft Office, R, Scala

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## Publications

- *A data-driven uncertainty modelling and reduction approach for energy optimisation problems* (with V. M. Charitopoulos). In preparation.
- *Solving strongly monotone generalised variational inequalities: theoretical and numerical approaches* (with R. Hauser). In preparation.
- *Nash equilibrium for risk averse traders with uncertain volume targets* (with R. Hauser). In preparation.
- *Trade execution with uncertain volume target under a composite dynamic coherent risk measure* (with R. Hauser). In preparation.
- *Optimal trade execution with uncertain volume target* (with R. Hauser). *Journal of Computational Finance*, 26(1) (2022).

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## Presentations and posters

- 04/2022 **Poster presentation**, *The impact of uncertainty towards the decarbonisation of heating in GB*, ChemEngDayUK 2022, University College London.
- 06/2021 **Seminar presentation**, *On generalised Nash equilibria and their application to pricing in the power market*, Numerical Analysis Internal Seminar, University of Oxford.
- 10/2019 **Conference presentation**, *How should electricity suppliers trade to optimally hedge the risk associated with power demand uncertainty?*, 2019 INFORMS Annual Meeting, Seattle.
- 08/2019 **Conference presentation**, *Optimal execution strategy under price and volume uncertainty*, ICCOPT 2019, Berlin.
- 07/2019 **Conference presentation**, *Optimal execution strategy under price and volume uncertainty*, International Conference on Optimization and Equilibrium Problems 2019, TU Dresden.
- 02/2019 **Poster presentation**, *Optimal execution strategy under price and volume uncertainty*, The Alan Turing Institute, London.
- 01/2019 **Seminar presentation**, *Optimal execution strategy under price and volume uncertainty*, Mathematical Finance Internal Seminar, University of Oxford.

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## Activities

Cycling, Field hockey, Hiking, Skiing, Tennis, Windsurfing