

Davide Leonessi

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Education

Sep. 2025 – June 2026 PGCE with QTS in Mathematics, King's College London

- On placement at St George's RC School; teaching a Year 11 class and a Year 7 class
- Receiving a scholarship and CPD from the Institute of Mathematics and its Applications

June 2025 MA in Mathematics, Graduate Center, City University of New York

- Specialized in Logic, interested in the intersection between Set Theory and Game Theory

September 2021 MSc in Mathematics and Foundations of Computer Science, University of Oxford

- Awarded a Distinction; final average mark of 81
- Defended the dissertation “Transfinite game values in infinite games” under the supervision of Prof. Joel David Hamkins; received the mark of 88
- Took courses on Game Theory, Topological Groups, Model Theory, and Axiomatic Set Theory

June 2019 BA in Mathematics, St Hugh's College, University of Oxford

Publications

[3] Joel David Hamkins and Davide Leonessi. “Infinite Hex is a draw” *Integers* **23** (2023), Paper no. G6. doi:10.5281/zenodo.10075842. <http://wp.me/pdrDew-2s>.

[2] Joel David Hamkins and Davide Leonessi. “Transfinite game values in infinite draughts” *Integers* **22** (2022), Paper no. G5. <http://wp.me/pdrDew-1I>.

[1] Davide Leonessi. “Transfinite game values in infinite games” (2021). MSc dissertation, Mathematics and Foundations of Computer Science, University of Oxford. arXiv:2111.01630, <http://wp.me/pdrDew-N>.

Experience

Jan. – Feb. 2025 Visiting Student, Instituto de Matemática Pura e Aplicada, Rio de Janeiro, Brazil

- Took a graduate-level course on Combinatorics

Aug. 2023 – Dec. 2024 Lecturer, Hunter College, New York

- Taught a course in Linear Algebra: responsible for syllabus, homework, and exam-setting
- Taught 35-student classes in Fall 2023, Spring 2024, and Fall 2024 (2 sections)

June – July 2023 Teaching Assistant, SUMaC Mathematics Camp, Stanford University

- Tutored 4 high school students taking a selective course on Algebraic Topology: marked their solutions to assigned problem sheets and met with them one-on-one daily
- Led a group of 2 students through a research project on Braid Groups, and a group of 3 students through a project on Topological Data Analysis
- Helped my research students to prepare a presentation of their findings for their 40 peers

December 2020 Admissions Exam Marker, Mathematical Institute, University of Oxford

- Learned marking conventions for the MAT, the Maths test for undergraduate admissions
- Cooperated with a team of graduate students to mark consistently 2000 scripts

July – August 2019 Data Scientist, Imaflora, Piracicaba (São Paulo), Brazil

- Analysed a comprehensive data set of timber trade taken place in Brazil over a decade, which was recently released by the Brazilian government
- Developed a tool in Python that recognizes potentially criminal productive behaviour of timber companies, using a Network Theory approach for the first time in this setting
- Presented and discussed the approach at a workshop organized by the University of São Paulo, with academics and industry representatives

Experience (continued)

June – Sept. 2017

Researcher, Mathematical Institute, University of Oxford

- Applied Network Theory to predict the industrial pollution of US cities
- Analysed large data sets with Matlab; visualized complex networks with Gephi
- Attended the multidisciplinary conference “Oxford Summer School in Economic Networks”

July 2016

Visiting Student, IARU Program, Peking University, Beijing

- Received a bursary to attend a course on Cultural Psychology and an introduction to Mandarin
- Submitted a research proposal at the end of the course and received grade A

Talks

September 2023

“Infinite draughts: an unsolved open game,” Infinite-Games Workshop

March 2023

“Strategy and determinacy in infinite Hex,” Logic Working Group, University of Torino

February 2023

“Introduction to the theory of infinite games,” Student Logic Seminar, Graduate Center, City University of New York

February 2023

“Strategy and determinacy in infinite Hex,” Set Theory Seminar, Graduate Center, City University of New York

January 2023

“Strategy and Set Theory in the game of infinite Hex,” Discrete mathematics and logic: between mathematics and computer science, Centre International de Rencontres Mathématiques (CIRM), Luminy, France

May 2022

“The games of infinite draughts and infinite Hex,” Junior Logic Seminar, University of Oxford

June 2021

“Transfinite game values in infinite games,” Summer Graduate Student Meeting, London Mathematical Society

Skills and interests

Languages

Native speaker of Italian, advanced knowledge of Portuguese, basic level of French and Spanish
Experience with Python, Matlab, C, and Sage

Programming

Taken part in inter-collegiate rowing regattas with the St Hugh’s College Boat Club at Oxford

Rowing

Walked 900 km in Northern Spain along a Medieval route over 5 weeks

Trekking

Wrote a witty article a week for the student newspaper *The Swan* on College meals and events

Journalism

Oxfam volunteer in local and national fundraising campaigns in Italy and the UK

Volunteering

Attended acting courses and acted in annual plays for 9 years at “Libera Accademia del Teatro”

Acting

Volunteer for the historical re-enactment of the medieval Saracen Joust held in my home town

Traditional events

Honours and Prizes

June 2021

Best Graduate Student Talk Prize, London Mathematical Society

Received for the presentation of my MSc dissertation research in front of PhD students and academics at the LMS Summer Graduate Student Meeting

September 2019

Bursary to attend “Prospects in Mathematics”, London Mathematical Society

Meeting for students interested in further education held at the University of Lancaster

May 2014

2nd prize, Philosophical Debating Olympiads, Italian Philosophical Society

Selected to join my high school team at the national final held in Faenza, Italy

Honours and Prizes (continued)

September 2013	Bursary to attend course “Senior”, Scuola Normale Superiore of Pisa Selected to attend an intensive course in preparation of mathematical competitions
September 2011	Mention in the National Registry of Excellence of the Italian Ministry of Education Received after winning a place at the final of the International Championship of Mathematical Games held by the French Federation of Mathematical Games in Paris. indire.it

Service

Co-organizer of the Infinite-Games Workshop
Co-organizer of the Graduate Student Colloquium, CUNY Graduate Center

Conferences attended

17 – 21 June 2024	Young Set Theory Workshop, Erdős Center, Budapest Received funding from CUNY and the local organizers
5–9 June 2023	Logic Colloquium, University of Milan Received funding from the Association of Symbolic Logic and CUNY
29 May – 3 June 2023	Young Set Theory Workshop, University of Münster Received funding from the Association of Symbolic Logic and the local organizers
23–26 May 2023	Mid-Atlantic Mathematical Logic Seminar, Rutgers University Received funding from CUNY
29 Aug. – 2 Sept. 2022	European Set Theory Conference, University of Torino Received funding from the National Science Foundation grant 2214692
6–11 June 2022	UltraMath, University of Pisa Received funding from the local organizers