

Davide Leonessi

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leonessi.org

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 <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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
Programming	Experience with Python, Matlab, C, and Sage
Rowing	Taken part in inter-collegiate rowing regattas with the St Hugh’s College Boat Club at Oxford
Trekking	Walked 900 km in Northern Spain along a Medieval route over 5 weeks
Journalism	Wrote a witty article a week for the student newspaper <i>The Swan</i> on College meals and events
Volunteering	Oxfam volunteer in local and national fundraising campaigns in Italy and the UK
Acting	Attended acting courses and acted in annual plays for 9 years at “Libera Accademia del Teatro”
Traditional events	Volunteer for the historical re-enactment of the medieval Saracen Joust held in my home town

Honours and Prizes

June 2021	Best Graduate Student Talk Prize, London Mathematical Society <ul style="list-style-type: none">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 <ul style="list-style-type: none">Meeting for students interested in further education held at the University of Lancaster
May 2014	2 nd prize, Philosophical Debating Olympiads, Italian Philosophical Society <ul style="list-style-type: none">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