

# Davide Leonessi

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## Education

- August 2022 – now      PhD in Mathematics, Graduate Center, City University of New York
- Interested in Logic, specializing in Set Theory
  - Receiving a Graduate Center Fellowship, with full funding for 5 years
- 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” (2022).  
arXiv:2201.06475, <https://wp.me/pdrDew-2s>. *To appear in Integers*.
- [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>.

## Talks

- March 2023      “Strategy and determinacy in infinite Hex,” Logic Working Group, University of Torino, Italy
- 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

## Honours and Prizes

- August 2022      Bursary to attend the European Set Theory Conference in Torino, Italy  
Received full funding from the National Science Foundation grant 2214692
- 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

## Honours and Prizes (continued)

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	2 <sup>nd</sup> prize, Philosophical Debating Olympiads, Italian Philosophical Society Selected to join my high school team at the national final held in Faenza, Italy
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 international final of the International Championship of Mathematical Games held by the French Federation of Mathematical Games in Paris. <a href="http://indire.it">indire.it</a>

## Experience

December 2020	Admissions Exam Marker, Mathematical Institute, University of Oxford <ul style="list-style-type: none"><li>• Learned marking conventions for the MAT, the Maths test for undergraduate admissions</li><li>• Cooperated with a team of graduate students to mark consistently 2000 scripts</li></ul>
Oct. 2019 – June 2020	Private Tutor, Arezzo, Italy <ul style="list-style-type: none"><li>• Tutored 5 grade 9-10 students in Mathematics on a weekly basis</li><li>• Tutored 3 grade 11-12 students in Mathematics, Physics, and Chemistry</li><li>• All students had a marked increase in confidence and performance during exams</li></ul>
July – August 2019	Data Scientist, Imaflora, Piracicaba (São Paulo), Brazil <ul style="list-style-type: none"><li>• Analysed a comprehensive data set of timber trade taken place in Brazil over a decade, which was recently released by the Brazilian government</li><li>• 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</li><li>• Presented and discussed the approach at a workshop organized by the University of São Paulo, with academics and industry representatives</li></ul>
June – Sept. 2017	Researcher, Mathematical Institute, University of Oxford <ul style="list-style-type: none"><li>• Applied Network Theory to predict the industrial pollution of US cities</li><li>• Analysed large data sets with Matlab; visualized complex networks with Gephi</li><li>• Attended the multidisciplinary conference “Oxford Summer School in Economic Networks”</li></ul>
July 2016	Visiting Student, IARU Program, Peking University, Beijing <ul style="list-style-type: none"><li>• Received a bursary to attend a course on Cultural Psychology and an introduction to Mandarin</li><li>• Submitted a research proposal at the end of the course and received grade A</li></ul>

## Skills and interests

Languages	Native speaker of Italian, intermediate 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