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Carlos Santos

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Curriculum

Carlos Pereira dos Santos has undergraduate, MSc and PhD degrees in mathematics from the University of Lisbon and he is currently researcher of the Center for Mathematics and Applications (NovaMath), FCT NOVA and professor at ISCTE – University Institute of Lisbon.He researches in the field of Combinatorial Game Theory, stresses the PhD under the guidance of Richard Nowakowski from Dalhousie University, world's top expert on that topic. He published several papers in international journals and presented at major conferences devoted to the subject.About popularization of mathematics, he published the book «Mathematics from The Da Vinci Code», co-authored with Luis Tirapicos and Nuno Crato, he participated in the projects «Games with History» and «Games from Around the World» (Visão/Público) with João Pedro Neto and Jorge Nuno Silva. For 10 years, he was Vice-President of the Ludus Association, one of the most relevant Portuguese institutions dedicated to recreational mathematics. He has been member of scientific committees of pioneering projects such as the «Portuguese Championship of Mathematical Games» and the «Recreational Mathematics Colloquia». He was managing editor of the Recreational Mathematics Magazine.About Mathematics Education in Portugal, he teaches and researches subjects related to elementary mathematics. Also noteworthy is the fact that, for three years, he has made the management of the Training Centre for Teachers of the Portuguese Mathematics Society and, after, he was the director of the Training Centre for Teachers of the Ludus Association. He organized and developed dozens of courses on various topics. Carlos Santos is a big fan of the Singapore Math, and he was managing editor of the Jornal das Primeiras Matemáticas.Regarding hobbies, Carlos Santos is International Chess Master. He was the Portuguese Champion in 1998 and 2000 and he was 5th in the under-18 World Championship in 1989.
On this page, only the outputs obtained since 2024, the year in which the faculty member joined ISCTE, are listed. To view the complete CV, please consult any of the other platforms made available here (ORCID, CiênciaVitae, etc.).

Research Interests

Combinatorial Game Theory

Academic Qualifications

University/Institution	Type	Degree	Period
Universidade de Lisboa - Faculdade de Ciencias	PhD	Matemática	2010

Teaching Activities

Teaching Year	Sem.	Course Name	Degree(s)	Coord.
2026/2027	2º	Complements on Differential Calculus	Bachelor Degree in Industrial Management and Logistics;	No
2026/2027	1º	Linear Algebra and Applications I	Bachelor Degree in Applied Mathematics for Economics and Finance;	No
2026/2027	1º	Topics of Real Analysis	Master Degree in Financial Mathematics;	Yes
2025/2026	2º	Complements on Differential Calculus	Bachelor Degree in Management;	No
2025/2026	1º	Mathematics and Numerical Methods for Economics and Finance I	Doctorate Degree (PhD) in Economics; Doctorate Degree (PhD) in Finance;	Yes
2025/2026	1º	Differential and Integral Calculus	Bachelor Degree in Management;	No
2024/2025	2º	Optimization		No
2024/2025	1º	Mathematics		No

Supervisions

- **M.Sc. Dissertations**

- Ongoing

	Student Name	Title/Topic	Language	Status	Institution
1	Miguel Cotrim Faria	Combinatorial Game Theory – Two-Dimensional Subtraction Games	English	Developing	Instituto Superior Técnico

Total Citations

Web of Science®	0
Scopus	21

Publications

• Scientific Journals

- Scientific journal paper

1	Michael Fisher, Neil McKay, Rebecca Milley, Richard J. Nowakowski & Santos, C. (2025). Indecomposable combinatorial games. Journal of Combinatorial Theory, Series A, 209, 105964. https://doi.org/10.1016/j.jcta.2024.105964 - Times Cited Google Scholar: 1
2	Abuku, T. , Manabe, H. , Nowakowski, R. J. , Santos, C. & Suetsugu, K. (2024). A complete solution for the partisan chocolate game. International Journal of Game Theory, 53(4), 1369?1384. https://doi.org/10.1007/s00182-024-00919-x - Times Cited Google Scholar: 1
3	Larsson, U., Nowakowski, R. J. & Santos, C. (2024). A complete solution for a nontrivial ruleset with entailing moves. The Electronic Journal of Combinatorics, 31(4). https://doi.org/10.37236/11997 - Times Cited Google Scholar: 3

• Books and Book Chapters

- Book chapter

1	Santos, C., Richard J. Nowakowski & Urban Larsson (2025). Absolute combinatorial game theory. Games of No Chance 6. Cambridge University Press. https://doi.org/10.1017/9781009565486.006 - Times Cited Scopus: 9 - Times Cited Google Scholar: 29
2	Santos, C., Richard J. Nowakowski & Urban Larsson (2025). Affine normal play. Games of No Chance 6. Cambridge University Press. https://doi.org/10.1017/9781009565486.007 - Times Cited Google Scholar: 1
3	Santos, C., Richard J. Nowakowski & Urban Larsson (2025). Infinitely many absolute universes. Games of No Chance 6. Cambridge University Press. https://doi.org/10.1017/9781009565486.009 - Times Cited Scopus: 4 - Times Cited Google Scholar: 3
4	Santos, C., Richard J. Nowakowski, Urban Larsson, Rebecca Milley & Gabriel Renault (2025). Reversibility, canonical form, and invertibility in dead-ending misère play. Games of No Chance 6. Cambridge University Press. https://doi.org/10.1017/9781009565486.010 - Times Cited Scopus: 7 - Times Cited Google Scholar: 3

5	Santos, C., Richard J. Nowakowski, Alfie M. Davies, Urban Larsson, Rebecca Milley & Aaron N. Siegel (2025). Combinatorial game theory monoids and their absolute restrictions: a survey. Games of No Chance 6. Cambridge University Press. https://doi.org/10.1017/9781009565486.002 - Times Cited Scopus: 1 - Times Cited Google Scholar: 2

• Conferences/Workshops and Talks

- Talk

1	Santos, C. (2025). Workshop on Combinatorial Game Theory. Summer School on Games,.
2	Santos, C. (2025). Cyclic impartial games with carry-on moves. Virtual Combinatorial Games Seminar,.
3	Santos, C. (2025). Cyclic impartial games with carry-on moves. Combinatorial Game Theory Colloquium V,.
4	Santos, C. (2024). Affine Normal Play. Virtual Combinatorial Games Seminar,. - Times Cited Google Scholar: 1
5	Santos, C. (2024). Combinatorial Game Theory monoids: an overview. Japan Combinatorial Game Theory Workshop,.
6	Santos, C. (2024). Impartial games in finite graphs. 16th East Coast Combinatorics Conference,.
7	Santos, C. (2024). Some open problems in Combinatorial Game Theory. Games at Mumbai,.
8	Santos, C. (2024). A quick journey into Combinatorial Game Theory. Games at Mumbai,.

Organization/Coordination of Events

Type of Organization/Coordination	Event Title	Organizer	Year
Member of scientific event committee	Combinatorial Game Theory Coloquium V	Associação Ludus	2025
Member of scientific event committee	RMC VIII | G4G EUROPE	Associação Ludus	2025
Member of scientific event's organizing committee	Theoretical and Computational Algebra 2024	Universidade de Aveiro	2024

Diffusion Activities

Activity Type	Event Title	Activity Description	Year
Talk/Conference in public diffusion event	European Researchers' Night	Planet Smullyan	2025
Talk/Conference in public diffusion event	International Conference Joga-Mate	Planet Smullyan	2025

Talk/Conference in public diffusion event	Summer School SPM	Participation in two panels	2025
Talk/Conference in public diffusion event	Mathematics, Art and Creativity	Mathematics in «Os Lusíadas»	2025
Talk/Conference in public diffusion event	Meeting «Camões ontem e hoje»	Sung Astronomy in «Os Lusíadas»	2025
Talk/Conference in public diffusion event	9th Iberian Mathematical Meeting	Some notes on Escher's regular division of the plane	2024
Talk/Conference in public diffusion event	European Researchers' Night	Activity: Planeta Smullyan	2024
Talk/Conference in public diffusion event	Camões: When Literature and Nature meet	Sung Astronomy in «Os Lusíadas»	2024
Talk/Conference in public diffusion event	Lectures ProfNOVA	Sung Astronomy in «Os Lusíadas»	2024

Scientific Editing/Reviewing Activities

Type of Activity	Journal Title	ISSN/Quartile	Period	Language
Member of scientific journal editing staff	International Journal of Game Theory		Since 2024	English
Member of scientific journal editing staff	Recreational Mathematics Magazine		Since 2014	English