Curriculum Vitae

Leonardo Nagami Coregliano, born July 7$^{\text{th}}$ 1991, São Paulo, SP, Brazil.

Academic History

09/2023–present day	L. E. Dickson Instructor at University of Chicago
09/2021–07/2023	Post-doctoral member at Institute for Advanced Study
09/2015–06/2021	Ph.D. in Mathematics and Computer Science at University of Chicago
08/2013–08/2015	M.Sc. in Computer Science at Universidade de São Paulo
08/2009–08/2013	Bachelor's degree in Molecular Sciences at Universidade de São Paulo

Awards

2025 2024-2025 Suzuki Postdoctoral Fellowship, University of Chicago

Established by Yuji Suzuki, an alumnus and Council member of the Physical Sciences Division, to recognize outstanding postdoctoral researchers whose work is especially creative and original.

2020 William Rainey Harper Dissertation Fellowship, University of Chicago

This award, one of the University of Chicago's highest honors for graduate students, is given in recognition of the recipient's record of achievement and professional promise.

2020 University Unrestricted (UU) Fellowship, University of Chicago

Ph.D. student-level fellowhip

Graduate Research

2021	Ph.D. dissertation: *Applications of continuous combinatorics to quasirandomness and extremal combinatorics* Advisor: Prof. Alexander A. Razborov
2018	M.Sc. dissertation: *Semantic Limits of Combinatorial Objects* Advisor: Prof. Alexander A. Razborov
2015	M.Sc. dissertation: *Flag Algebras and Tournaments* Advisor: Prof. Yoshiharu Kohayakawa
09/2014–03/2015	Work in flag algebras and continuous combinatorics (during exchange program at University of Chicago) Advisor: Prof. Alexander A. Razborov; Co-advisor: Prof. Yoshiharu Kohayakawa

Undergraduate Work

01/2013–04/2013	Scientific Initiation: Sidorenko's Conjecture (during exchange program at University of Toronto), Advisor: Dr. Viktor Harangi; Co-advisor: Prof. Yoshiharu Kohayakawa
07/2011–07/2013	Scientific Initiation: Modern Techniques in Combinatorics (at Universidade de São Paulo), Advisor: Prof. Yoshiharu Kohayakawa

Courses Taught

Winter 2026 (planned)	(Graduate) Limit theory and quasirandomness at University of Chicago
Winter 2026 (planned)	Honors Calculus II (IBL) at University of Chicago
Fall 2025 (in progress)	Mathematical Logic at University of Chicago
Fall 2025 (in progress)	Honors Calculus I (IBL) at University of Chicago
Fall 2024, Winter and Spring 2025	Honors Calculus (IBL) sequence at University of Chicago
Fall 2024	Abstract Linear Algebra at University of Chicago
Fall 2024	Reading and Research at University of Chicago (undergraduate advising Parth Wokhlu)
Fall 2023, Winter and Spring 2024	Honors Calculus (IBL) sequence at University of Chicago

Selected talks and seminars

2025 Mathematical Congress of the Americas 2025: "Tamer regularity lemmas and PAC learning theory"

2024 AMS 2024 Spring Central Sectional Meeting – Model Theory: "High-arity PAC learning via exchangeability"
17th International Conference on Computability, Complexity and Randomness: "High-arity PAC learning via exchangeability"

2023 Frontiers of Set Theory Workshop (Fields Institute): "Continuous combinatorics"
AMS 2023 Spring Southeastern Sectional Meeting – Logic, Combinatorics and Their Interations: "Weak randomness"

2022 AMS Fall Eastern Sectional Meeting – Ramsey Theory: "Ramsey's Theorem in the countable and the approximate Erdős–Hajnal property"
Combinatorics Meets Model Theory Workshop (University of Cambridge): "Ramsey's Theorem in the countable and the approximate Erdős–Hajnal property"
2022 CMS Winter meeting – Topological Methods in Model Theory: "Continuous combinatorics and natural quasirandomness"
17th Innovations in Theoretical Computer Science (ITCS) 2022: "A Complete Linear Programming Hierarchy for Linear Codes"

2021 Workshop on Model Theory and Combinatorics (Fields Institute): "Continuous combinatorics and natural quasirandomness"

2020 Stanford University (online): "Semantic Limits of (Dense) Combinatorial Objects"

2019 6th Lake Michigan Workshop on Combinatorics and Graph Theory: "Semantic Limits of (Dense) Combinatorial Objects"

Publications

[1] Leonardo N. Coregliano, Jarosław Swaczyna, and Agnieszka Widz. How to get the random graph with non-uniform probabilities? *Electron. J. Combin.*, 32(2):Paper No. 2.45, 8, 2025.

[2] Leonardo N. Coregliano and Maryanthe Malliaris. Weak Randomness in Graphons and Theons. *Random Structures Algorithms*, 66(1):Paper No. e21261, 2025.

[3] Leonardo N. Coregliano and Maryanthe Malliaris. Sample completion, structured correlation, and netflix problems, 2025. 97 pages. arXiv:2509.20404.

[4] Leonardo N. Coregliano and Maryanthe Malliaris. A packing lemma for VCN_k-dimension and learning high-dimensional data, 2025. 29 pages. arXiv:2505.15688. Submitted.

[5] Leonardo N. Coregliano, Fernando G. Jeronimo, Chris Jones, Nati Linial, and Elyassaf Loyfer. Higher-order Delsarte dual LPs: Lifting, constructions and completeness, 2025. 50 pages. arXiv:2501.04854. Submitted.

[6] Leonardo N. Coregliano and Henry P. Towsner. On the equivalence of quasirandomness and exchangeable representations independent from lower-order variables, 2024. 103 pages. arXiv:2406.08195. Submitted.

[7] Leonardo N. Coregliano and Maryanthe Malliaris. High-arity PAC learning via exchangeability, 2024. 151 pages. arXiv:2402.14294. Submitted.

[8] Leonardo N. Coregliano. Left-cut-percolation and induced-Sidorenko bigraphs. *SIAM J. Discrete Math.*, 38(2):1586–1629, 2024.

[9] Leonardo N. Coregliano. Bigraph percolation problems, 2024. 41 pages. arXiv:2408.14257.

[10] Leonardo N. Coregliano and Alexander A. Razborov. Natural quasirandomness properties. *Random Structures Algorithms*, 63(3):624–688, 2023.

[11] Leonardo N. Coregliano, Fernando G. Jeronimo, and Chris Jones. Exact completeness of LP hierarchies for linear codes. In *14th Innovations in Theoretical Computer Science Conference*, volume 251 of *LIPIcs. Leibniz Int. Proc. Inform.*, pages Art. No. 40, 18. Schloss Dagstuhl. Leibniz-Zent. Inform., Wadern, 2023.

[12] Leonardo N. Coregliano and Maryanthe Malliaris. Countable Ramsey, 2022. 76 pages. arXiv:2203.10396. To appear in the Journal of Mathematical Logic.

[13] Leonardo N. Coregliano, Fernando G. Jeronimo, and Chris Jones. A complete linear programming hierarchy for linear codes. In *13th Innovations in Theoretical Computer Science Conference*, volume 215 of *LIPIcs. Leibniz Int. Proc. Inform.*, pages Art. No. 51, 22. Schloss Dagstuhl. Leibniz-Zent. Inform., Wadern, 2022.

[14] Leonardo N. Coregliano and Fernando G. Jeronimo. Tighter bounds on the independence number of the Birkhoff graph. *European J. Combin.*, 105:Paper No. 103564, 29, 2022.

[15] Leonardo N. Coregliano. On the abstract chromatic number and its computability for finitely axiomatizable theories. *J. Combin. Theory Ser. B*, 154:175–210, 2022.

[16] Leonardo N. Coregliano and Alexander A. Razborov. Biregularity in Sidorenko's conjecture, 2021. 31 pages. arXiv:2108.06599.

[17] Leonardo N. Coregliano and Alexander A. Razborov. Semantic limits of dense combinatorial objects. *Russian Mathematical Surveys*, 75(4):627–723, aug 2020.

[18] Leonardo N. Coregliano and Alexander A. Razborov. Semantic limits of dense combinatorial objects. *Uspekhi Mat. Nauk*, 75(4(454)):45–152, 2020.

[19] Leonardo N. Coregliano, Roberto F. Parente, and Cristiane M. Sato. On the maximum density of fixed strongly connected subtournaments. *Electron. J. Combin.*, 26(1):Paper 1.44, 48, 2019.

[20] Leonardo N. Coregliano. Quasi-carousel tournaments. *J. Graph Theory*, 88(1):192–210, 2018.

[21] Leonardo N. Coregliano and A. A. Razborov. On the density of transitive tournaments. *J. Graph Theory*, 85(1):12–21, 2017.

[22] Josefran O. Bastos and Leonardo N. Coregliano. Packing densities of layered permutations and the minimum number of monotone sequences in layered permutations. *Discrete Math. Theor. Comput. Sci.*, 18(2):Paper No. 7, 24, 2016.

[23] Leonardo N. Coregliano. A continuous time stochastic model for biological neural nets, 2015. 17 pages. arXiv:1507.06331.

Languages

Portuguese (native language);
English (fluent level);
French (intermediate level);
Spanish (intermediate level);
Italian (basic level);
German (basic level);
Japanese (basic level).