


CV | Nicanor Carrasco-Vargas

General Information

- **Name:** Nicanor Carrasco-Vargas
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Education

- **PhD in Mathematics.** Pontifical Catholic University of Chile, Chile. 2020 - 2024. Supervised by Cristóbal Rojas and Sebastián Barbieri.
- **Bachelor in mathematics.** University of Concepción, Chile. 2014 - 2018.

Research

Pre-prints

1. Topological slow entropy, sequence entropy, and generalized $[T, T^{-1}]$ systems. 2025.
2. The automorphism group of a strongly irreducible subshift on a group. With Sebastián Barbieri, and Paola Rivera-Burgos. 2025.
3. On the complexity of the Eulerian path problem for infinite graphs. With Valentino Delle Rose, and Cristóbal Rojas. 2024.
4. Medvedev degrees of subshifts on groups. With Sebastián Barbieri. 2024.

Published Papers

1. Translation-like actions by \mathbb{Z} , the subgroup membership problem, and Medvedev degrees of effective subshifts. *Groups, Geometry, and Dynamics*, 2024.
2. Effective dynamical systems beyond dimension zero and factors of SFTs. With Sebastián Barbieri, and Cristóbal Rojas. *Ergodic Theory and Dynamical Systems*, 2025.
3. On a Rice theorem for dynamical properties of SFTs on groups. *Archiv der Mathematik*, 2025.
4. Infinite Eulerian paths are computable on graphs with vertices of infinite degree. 2023. Accepted in Computability.

Talks and posters

1. Topological slow entropy of some skew products. Aug 2025. Talk for Recurrent ETDS seminar, <https://sites.google.com/view/recurrentetds/home>
2. Automorphism groups of subshifts. Apr 2025. Talk for dynamics seminar, Jagiellonian University
3. Medvedev degrees of subshifts. Dec 2024. Talk for dynamics seminar, Jagiellonian University
4. Tilings of the plane: aperiodicity, undecidability, and a Rice theorem. May 2024. Talk for postgraduate school UFRO - Lican Ray
5. Tilings of the plane: aperiodicity, undecidability, and a Rice theorem. May 2024. Talk for CENIA seminar
6. A recursion-theoretic invariant for subshifts. Feb 2024. Talk for thematic month at CIRM, France: Discrete Mathematics & Computer Science: Groups, Dynamics, Complexity, Words. <https://conferences.cirm-math.fr/3007.html>
7. Are all dynamical properties of \mathbb{Z}^2 -SFTs undecidable?. Feb 2024. Poster for thematic month at CIRM, France: Discrete Mathematics & Computer Science: Groups, Dynamics, Complexity, Words. <https://conferences.cirm-math.fr/3007.html>
8. Un invariante para subshifts de naturaleza recursiva. Dec 2023. Encuentro sociedad matemática de chile 2023, Santiago, Chile. <https://sites.google.com/uchile.cl/somachi2023/actividades-cient%C3%ADficas/sesiones-tem%C3%A1ticas>
9. Un invariante para subshifts de naturaleza recursiva. Sep 2023. Seminario de Sistemas Dinámicos de Santiago, Santiago, Chile. http://www.dynamicalsystems.cl/?page_id=286
10. Medvedev degrees and subshifts. Jul 2023. 16th International Conference on Computability, Complexity and Randomness. Kochel, Germany. <http://cca-net.de/ccr2023/>
11. Medvedev degrees of effective subshifts on groups. Mar 2023. Journées annuelles SDA2, Toulouse, France. <https://indico.math.cnrs.fr/event/9357/>