

Felipe Arbulú

Mathematical Engineer – PhD in Mathematics, specialized in mathematical modeling

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WORK EXPERIENCE

Université de Picardie Jules Verne

Postdoctoral researcher Sept. 2025 – Present

Oct. 2020 – Present

Amiens, France

- Co-organizer of an international scientific conference (ongoing); leading national and international research collaborations.

Attaché Temporaire d'Enseignement et de Recherche Jan. 2024 – Sept. 2025

Amiens, France

- Taught 384 hours in 6 courses, guiding multidisciplinary cohorts through weekly applied problem-solving sessions.
- Built international collaborations through research visits abroad, advancing joint projects in mathematics.

PhD Student Oct. 2020 – Dec. 2024

Amiens, France

- Performed high-impact research, solving previously open problems; resulted in international collaboration, presentation of the results at 10 specialized conferences and 2 publications in leading peer-reviewed journals.
- Co-organized the PhD student's seminar, curating talks that fostered interdisciplinary modeling and research collaboration.

Centro de Inteligencia Territorial (Universidad Adolfo Ibáñez)

Jun. 2017 – Jul. 2017

Centro de Investigación Avanzada en Educación (Universidad de Chile)

Jul. 2017 – Aug. 2017

Internships

Santiago, Chile

- Built geospatial data pipelines and integrated a territorialized national database (22 major Chilean cities) for analysis.
- Ran large-scale analyses on socio-demographic and educational datasets to quantify territorial inequities.
- Collaborated with a multidisciplinary team to translate quantitative results into actionable policy recommendations.

Facultad de Ciencias Físicas y Matemáticas (FCFM) – Universidad de Chile

Mar. 2017 – Aug. 2018

Teaching Assistant

Santiago, Chile

- Advised graduate (Master and PhD) students in understanding complex mathematical concepts through exercise sessions, focusing on problem solving strategies and providing constructive feedback to enhance performance and engagement.

EDUCATION

Université de Picardie Jules Verne

PhD in Mathematics

Oct. 2020 – Dec. 2024

Amiens, France

Université Paris-Saclay

Sept. 2019 – Aug. 2020

Master of Science in Mathematics

Paris, France

Universidad de Chile

Aug. 2017 – Nov. 2018

Master of Science in Engineering, mention Mathematics

Santiago, Chile

Universidad de Chile

Mar. 2012 – Nov. 2018

Civil Engineering, mention Mathematics

Santiago, Chile

- Summa Cum Laude*, Dean's List, Rank 1/19 of the class

Universidad de Chile

Mar. 2012 – Aug. 2017

Bachelor of Science in Engineering, mention Mathematics

Santiago, Chile

- Dean's List

SKILLS & LANGUAGES

- Analytical:** Mathematical Modeling; Probability; Statistics; Stochastic Calculus; Optimization; PDEs; Numerical Analysis.
- Programming:** Python (NumPy, Pandas, Matplotlib); C++; MATLAB; Git; SageMath; LaTeX.
- Currently learning:** Machine Learning (Scikit-learn); Deep Learning (PyTorch).
- Languages:** English (fluent); French (proficient); Spanish (first language).

ACADEMIC PUBLICATIONS

- The Jacobs–Keane theorem from the S-adic viewpoint.** Arbulú, Felipe, Durand, Fabien and Espinoza, Bastián. 2024. *Discrete Contin. Dyn. Syst.* pp. 3077–3108. [doi: 10.3934/dcds.2024052](https://doi.org/10.3934/dcds.2024052). [arXiv: 2307.10663](https://arxiv.org/abs/2307.10663).
- Dynamical properties of minimal Ferenczi subshifts.** Arbulú, Felipe and Durand, Fabien. 2023. *Ergodic Theory Dynam. Systems.* pp. 3923–3970. [doi: 10.1017/etds.2023.7](https://doi.org/10.1017/etds.2023.7). [arXiv: 2207.14097](https://arxiv.org/abs/2207.14097).