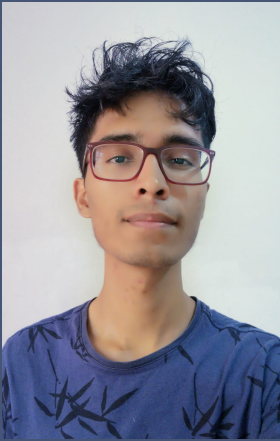# Emmanuel JEREZ USUGA

CONTACT DETAILS

@ ejerez@ime.usp.br

📞 +55 (11) 99416 7727

🌐 github.com/emmanueljerez

PERSONAL INFORMATION

Citizenship: **Colombia**

Family: **Single without children**

LANGUAGES

- **Spanish** (native)
- **Portuguese** (C1)
- **English** (B2)

PROGRAMMING SKILLS

- Python
- Rust
- C++
- LaTeX

SUMMARY

I obtained my bachelor's degree in mathematics in 2018 from the Industrial University of Santander (Colombia) and my master's degree in mathematics (Cohomology based on partial representations) in 2020 from the University of São Paulo (Brazil) under the direction of Professor Mikhailo Dokuchaev.

I expect to complete my PhD at the University of São Paulo under the supervision of Professor Mikhailo Dokuchaev in August 2024. My PhD research has focused on the (co)homological framework of partial actions of groups and Hopf algebras.

In addition to pure mathematics, I have a strong interest in computational mathematics, particularly in the applications of algebra to solve computational problems. Moreover, I enjoy coding programs to solve algebraic problems.

EDUCATION

DOCTOR IN SCIENCE. *University of São Paulo, Brasil.*   **2020–On going**
◇ Expected conclusion date: *August 2024.*
◇ Thesis title: *(Co)homology and partial actions.*
◇ Advisor: Mikhailo Dokuchaev
◇ Scolarship: Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP)
◇ Achieved maximum grades in all courses

MASTER IN SCIENCE. *University of São Paulo, Brasil.*   **2018–2020**
◇ Disertation title: *Partial group cohomology.*
◇ Advisor: Mikhailo Dokuchaev
◇ Scolarship: Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq)
◇ Achieved maximum grades in all courses

BACHELOR'S DEGREE IN MATHEMATICS. *Industrial University of Santander, Colombia.*   **2014–2018**
◇ Disertation title: *The inverse Möbius monoid*
◇ Advisor: Hector Pinedo Tapia

PUBLICATIONS

◇ M. DOKUCHAEV, E. JEREZ, *(Co)homology of partial smash products*, Journal of Algebra, 652 (2024), pp. 113-157

◇ M. DOKUCHAEV, E. JEREZ, *The twisted partial group algebra and (co)homology of partial crossed products*, Bulletin of the Brazilian Mathematical Society, (2024), to appear

PREPRINTS

◇ E. JEREZ, *The category of partial group actions: quotients, (co)limits and groupoids*, 2023

◇ E. JEREZ, *On the homology of partial group actions*, 2024

Events

- Altencoa 7, July 18-22, 2016, Industrial University of Santander, Bucaramanga, Colombia.
- Algebra: celebrating Paulo Ribenboim's ninetieth birthday, October 24-27, 2018, University of São Paulo, Brazil.
- YMC*A, Westfälische Wilhelms-Universität Münster, August 2-13, 2021.
- 33° Colóquio Brasileiro de Matemática, IMPA, Rio de Janeiro, August 02 – 06, 2021.
- Geometric, Algebraic and Topological Methods in Quantum Field Theory, Villa de Leyva, July 31 - August 09, 2023.
- Non-Associative Algebras and Related Topics, Vitoria, Brazil, December 4 - 9, 2023.

Talks in Seminars

- Algebra Seminar, May 15, 2018, Industrial University of Santander, Bucaramanga, Colombia. "*An introduction to inverse semigroups and the representation theorem where Wagner-Preston*".
- Algebra Seminar, February 12, 2019, Industrial University of Santander, Bucaramanga, Colombia. "*Disasters in vector spaces and the axiom of choice*".
- Algebra Seminar, February 4, 2020, Industrial University of Santander, Bucaramanga, Colombia. "*Computing semigroups and why my computer doesn't work*".
- Algebra Seminar, February 16, 2021, Industrial University of Santander, Bucaramanga, Colombia. "*Euler's formula from group theory*".
- Algebra Seminar, March 8, 2022, Industrial University of Santander, Bucaramanga, Colombia. "*What is category theory?*"
- Noncommutative rings and applications Seminar, May 23, 2023, University of São Paulo, Brazil. "*Twisted partial group algebras and homology of crossed products by twisted partial actions (I)*".
- Noncommutative rings and applications Seminar, May 30, 2023, University of São Paulo, Brazil. "*A brief introduction to spectral sequences*".
- Noncommutative rings and applications Seminar, June 06, 2023, University of São Paulo, Brazil. "*Twisted partial group algebras and homology of crossed products by twisted partial actions (II)*".
- Noncommutative rings and applications Seminar, April 02, 2024, University of São Paulo, Brazil. "*Partial group actions and groupoids*".

Future Events

Groups, Rings and Group Rings, *Ubatuba, Brazil.* **July 8 to 13, 2024**

Brazilian Algebra Meeting, *Sao Paulo, Brazil.* **July 15 to 19, 2024.**
◇ **Talk**: *Partial group actions and groupoids.*

XXIV Coloquio Latinoamericano de Álgebra, *Santiago de Chile, Chile.* **July 22 to 26, 2024.**
◇ **Talk**: *Homology of partial group actions*