

Azul Lihuen Fatalini

Personal Details

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Languages Spanish (native), English (advanced), Portuguese (advanced), German (intermediate)

Education

Degrees

- 2020–2024 **PhD in Mathematics**, Universität Münster, Germany.
Doctoral position (75 % position, salary level E13, TV-L funded by Cluster of Excellence Münster + 25 % position given by Ada Lovelace Fellowship).
Thesis: *Paradoxical sets and the Axiom of Choice*. Advisor: Ralf Schindler.
Grade: magna cum laude.
- 2019–2020 **PhD student**, National University of Córdoba, Argentina.
CONICET Fellowship. Discontinued to be able to study abroad.
- 2013–2018 **Licentiate in Mathematics**, (*Bachelor+Master equivalent, 5 years program*), National University of Córdoba, Argentina.
Thesis: *Hyperbolic plane geometry*. Advisors: Juan Pablo Rossetti (National University of Córdoba) and Peter Doyle (Dartmouth College).
GPA: 9.88/10.
- 2015–2018 **Teacher of Mathematics**, (*Bachelor's degree, 4 years program*), National University of Córdoba, Argentina.
GPA: 9.57/10.

Complementary Activities

- Sept 2022 **Research stay**, with Asaf Karagila, Leeds, UK.
- 2019 and 2017 **Summer Program**, course “Combinatorics I” (2019) and “Topics of Singularity Theory: Combinatorics, Topology and Algebra” (2017), Instituto de Matemática Pura e Aplicada (IMPA), Rio de Janeiro, Brazil.
Grades: A

Awards and Honors

- 2024 **Recognition of doctoral excellence**, among the doctoral theses in logic in the last two years from the German-speaking research community.
- 2018 **Honorable Mention in the Competencia Interuniversitaria Matemática Argentina (CIMA)**, CIMA is a Mathematical Olympiad for undergraduates.
Team with M. Hunicken
- 2017 **Second best GPA**, out of all fourth-year students in the fields of Math, Physics, Computer Science and Astronomy at the National University of Córdoba.
- 2017 **Excellence Award Luis Pasteur**.
Monetary award given by Obra Social Luis Pasteur to the 20 best GPAs that entered the national contest.
- 2016, 2015 **First place in the CIMA**.
Team with L. Ferroni
- 2013 **Honorable mention and “Most original solution” in the CIMA**.
Team with L. Ferroni
- 2012 **Honorable Mention in the 53rd International Mathematical Olympiad (IMO)**.

Conferences and Seminars

Conferences

- Sept 2025 **Invited speaker**, *Young Set Theory Workshop*, Vienna, Austria.
- March 2025 **Invited speaker**, *Kurt Gödel Research Center Seminar*, Vienna, Austria.
- March 2025 **Invited speaker**, *SEALS Conference*, Gainesville, USA.
- January 2025 **Invited speaker**, *Young Topology and Set Theory Meeting*, Catania, Italy.
- 2024 **Invited speaker**, *Colloquium Logicum*, Vienna, Austria.
- 2024 **Attendee**, *European Set Theory Conference*, Münster, Germany.
- 2024 **Invited speaker**, *120 Years of Choice*, Leeds, UK.
- 2024 **Attendee**, *Determinacy, Inner Models, and Forcing Axioms*, Vienna, Austria.
- 2024 **Poster presenter**, *Young Set Theory Workshop*, Budapest, Hungary.
- 2023 **Attendee**, *Perspectives in Set Theory*, Warsaw, Poland.
- 2023 **Speaker and poster presenter**, *PhDs in Logic XIV*, Granada, Spain.
- 2023 **Local organizer**, *Young Set Theory Workshop*, Münster, Germany.
- 2023 **Speaker**, *Winter school: Section set theory and topology*, Štěkeň, Czech Republic.
- 2022 **Invited speaker**, *Set Theory in the UK*, Leeds, UK.
- 2022 **Attendee**, *CHEESE Workshop (Choiceless Elementary Embeddings of Sets)*, Leeds, UK.
- 2022 **Attendee**, *European Set Theory Conference*, Turin, Italy.
- 2022 **Speaker**, *5th Münster conference on inner model theory*, Münster, Germany.
- 2022 **Speaker**, *Winter school: Section set theory and topology*, Hejnice, Czech Republic.
- 2021 **Attendee**, *XVI International Luminy Workshop in Set Theory*, CIRM, Marseille, France.
- 2021 **Attendee (online)**, *RIMS Workshop "Recent Developments in Set Theory of the Reals"*, Kyoto University, Japan.
- 2015–2020 **Attendee**, *of the six annual meetings of the Argentinian Mathematical Union that took place in those years*, Argentina.

Seminars

- May 2025 **Invited speaker (online)**, *Logic Working Group Seminar*, Turin, Italy.
- April 2025 **Invited speaker**, *KGRC Set Theory Seminar*, Vienna, Austria.
- 2024 **Invited speaker (online)**, *Logic student meeting (Posetting II)*, Córdoba, Argentina.
- 2024 **Invited speaker (online)**, *Descriptive Dynamics and Combinatorics Seminar*, Montreal, Canada.
- 2024 **Invited speaker**, *Celebrating Women in Math day*, Bielefeld, Germany.
- 2023 **Organizer**, *of the PhD Seminar of Set Theory*, Universität Münster.
- 2022 **Organizer**, *of the Seminar of graduate students*, Universität Münster.
- 2020 **Organizer**, *of the Seminar of graduate students*, National University of Córdoba.
- 2020 **Speaker (online)**, *"The Continuum Hypothesis"*, on the Seminar of graduate students, National University of Chile.
- 2016–2023 **Speaker**, *on the topics "Euclides vs Cantor"(2023), "Forcing paradoxical sets"(2021) "Combinatorics: Ramsey theory and random graphs"(2019), "Hyperbolic plane geometry: area of polygons"(2018), "The art of solving math problems" (2016)*, Seminar of graduate students, National University of Córdoba.

List of publications

- A. FATALINI AND R. SCHINDLER, *The transcendence degree of the reals over certain set-theoretical subfields*, [arXiv:2501.00616](#), accepted, to appear in the Journal of Symbolic Logic.
- A. FATALINI, *Partitions of \mathbb{R}^3 into unit circles with no well-ordering of the reals*, [arXiv:2501.03131](#), submitted.

Teaching Experience

- 2017–2019 **Teacher in a Math olympiad workshop.**
Workshop at a school, destined to primary and high school students who want to train for mathematical olympiads.
- 2016–2018, **Teaching Assistant**, at National University of Córdoba.
2020 Hired by the Math Department.

Institutional Activities

- 2023 **Member**, of the *Equal Opportunity Committee*, Universität Münster.
This role involved organization of different events for May 12 and the organization of regular lunches with FLINTA people from the department.
- 2021–2022 **Mentor**, as part of the *MINT mentorship program for women master students*, Universität Münster.
- 2017–2019 **Organizer**, of different institutional events of the *Math Department*, National University of Córdoba.
- 2015–2018 **Representative of undergraduate Math students**, in the *Mathematics Council*, National University of Córdoba.

Others

- Sept 2025 **Member of the jury for the CIMA**, Argentina.
CIMA is the national mathematical olympiad for undergraduates.
- August 2025 **Member of the jury for the UMA essay contest**, Argentina.
This is a national math essay contest for undergraduates.
- 2024 **Podcast appearance**, in the third episode of the podcast "*On a tangent*".
This is a podcast about the stories behind the mathematics, in which the host interviews early career researchers of Mathematics Münster.
- 2017 **Collaborator**, with the (partial) translation from English to Spanish of the book "*A singular mathematical Promenade*" by Étienne Ghys, IMPA, Rio de Janeiro.
- 2013–2017 **Student grant**, thanks to *Retama Foundation*.
Retama is a private foundation that awards scholarships to outstanding high school students who have to move to another city for university studies.
- [Argentinian Mathematical Olympiad \(OMA\)](#)
- 2019 **Member of the jury for the national competition.**
- 2018, 2019 **Member of the jury for several regional competitions.**
- 2015, 2018, **Member of the jury for the national competition "Mateclubes"**.
2019 Mateclubes is an Argentinian Mathematical Olympiad organized by teams.
- 2011–2019 **Collaborator**, of the *Argentinian Mathematical Olympiad Foundation*, in regional, national and international competitions such as:
- Southern Cone Olympiad 2016
 - Ibero-American Olympiad 2017
 - Río de La Plata Olympiad 2018 and 2019