



César Bardomiano Martínez

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EDUCATION

- 2020 - present **PhD candidate in Mathematics**, University of Ottawa.
Expected completion: June 2025.
Thesis title: Type theoretic methods for higher structures.
Advisor: Prof Simon Henry.
- 2019 **M.Sc. Mathematics**, Department of Mathematics, University of Western Ontario.
Supervisor: Prof Chris Kapulkin.
- 2011-2015 **B.Sc. Mathematics**, Faculty of Science, National Autonomous University of Mexico (UNAM). Mexico City, Mexico.
Thesis project: The big lattice of preradicals.
Supervisor: Prof Alejandro Alvarado.

PUBLICATIONS

- Bardomiano Martínez, César and Simon Henry (2025). “Homotopy languages”. In: *In preparation. Draft available* <https://cesarbm03.github.io/files/language.pdf>.
- Bardomiano Martínez, César (2024a). “Exponentiable functors between synthetic ∞ -categories”. In: [arXiv: 2407. 18072](#). *Submitted to Mathematical Structures in Computer Science*.
- (2024b). “Limits and colimits of synthetic ∞ -categories”. In: [arXiv: 2202. 12386](#). *Submitted to Mathematical Structures in Computer Science*.

PRESENTATIONS

Conference presentations

- January 2025 *Homotopy languages*. Invited presentation. ASSUME seminar
Birmingham–Nottingham. University of Birmingham, UK.
- December 2024 *Homotopy languages*. Contributed speed talk. Categorical Logic and
Higher Categories. University of Manchester, Manchester, UK.
- July 2024 *The language of a model category*. 31st Foundational Methods in Com-
puter Science Workshop. University of Calgary, Canada.
- June 2024 *The language of a model category*. Category theory conference. Universi-
dad de Santiago de Compostela. Santiago de Compostela, Spain.
- September 2023 *Limits and exponentiable functors in synthetic $(\infty,1)$ -categories*. Interac-
tion of proof assistants and mathematics, University of Regensburg, Ger-
many.

Seminar presentations

- February 2022 *Limits and colimits of synthetic $(\infty,1)$ -categories*. Logic Seminar, Univer-
sity of Ottawa.

- November 2022 *A first look into infinity categories.* Graduate students colloquium, University of Ottawa.
- August 2021 *Univalent foundations of mathematics.* Graduate students colloquium, University of Ottawa.
- November 2019 *Sheaves and Etale spaces.* Graduate students seminar. Department of mathematics, University of Western Ontario.

Outreach

- August 2024 *What is a category?* Mathematics summer school. University of Ottawa.

CONFERENCES AND WORKSHOPS

Workshops

- February 2024 *Matematicas en el Cono Sur: Mujeres liderando la ciencia.* Univesidad de la Republica, Montevideo, Uruguay.
Research workshop: project leaders Maru Sarazola (University of Minnesota) and Paula Verdugo (Max Planck Institute of Mathematics, Bonn).
Project: *A model structure for Grothendieck 2-fibrations.*
- September 2023 *Interaction of proof assistants and mathematics.* University of Regensburg, Germany.
- July 2022 *Summer school on univalent mathematics.* Scuola Normale Superiore, Cortona, Italy.

Conferences

- July 2024 *31st Foundational Methods in Computer Science Workshop.* Kananaskis, University of Calgary, Canada.
- June 2024 *Category Theory Conference.* Universidad de Santiago de Compostela. Santiago de Compostela, Spain.
- April 2024 *(∞, n) -categories and its applications.* Utrecht University, Utrecht, Netherlands.
- May 2023 *International conference in Homotopy type theory.* Carnegie Mellon University, Pittsburgh, United States.

TEACHING EXPERIENCE

Instructor

- Summer 2024 *Mat1322 Calculus II.* Undergraduate course. University of Ottawa.
- Aug 2018-Dec 2018 *Superior Algebra.* Undergraduate course. Faculty of Higher Studies Acatlan, UNAM.
- Jan 2018-May 2018 *Linear Algebra I.* Undergraduate course. Faculty of Science, UNAM.

Teaching assistant positions

- Fall 2021-Present Department of mathematics and statistics, University of Ottawa.
- 2019 Department of mathematics, University of Western Ontario.

RESEARCH VISITS

January 26–31, 2025 FLP group, University of Nottingham.

PEDAGOGICAL EXPERIENCES

Fall 2024-Winter 2025 *Certificate in University Teaching: Pillars*. Teaching and Learning Support Service, University of Ottawa.

August 2024 *Certificate in University Teaching: Foundations*. Teaching and Learning Support Service, University of Ottawa.

Engaging learners through UDL. Teaching and Learning Support Service, University of Ottawa.

Teaching in person, online or hybrid. Teaching and Learning Support Service, University of Ottawa.

August 2019 *Teaching Assistant Training Program*. Centre for Teaching and Learning, University of Western Ontario.

FUNDING AND SCHOLARSHIPS

Fall 2020-Present Funding for doctoral studies (116,520 CAD). Covers tuition and stipend. University of Ottawa. Including:

International Doctoral Scholarship, valued 13,867 CAD per year.

Admission Doctoral Scholarship valued 9,000 CAD per year (Until Summer 2024).

ORGANIZATION AND SERVICE

June 2025 Co-organizer with Prof Rick Blute: *32nd Foundational methods in computer science conference*. University of Ottawa.

Fall 2023 Organizer. Reading seminar; *The logic elephant: topos theory..* University of Ottawa.

REFERENCES

- Prof Simon Henry. Associate Professor. Department of Mathematics and Statistics. University of Ottawa, Canada. *email*: shenry2@uottawa.ca
- Prof Benedikt Ahrens. Assistant Professor. Programing Languages, Delft University of Technology, The Netherlands. *email*: b.p.ahrens@tudelft.nl
- Prof Paige North. Assistant Professor. Department of mathematics and Department of computer sciences. Utrecht University, The Netherlands. *email*: p.r.north@uu.nl