

Diana Carolina Montoya

Kurt Gödel Research Center. Fakultät für
Mathematik, Universität Wien

Kolingasse 14-16
1090 Wien, Österreich

☎ +43-1-4277-50538

✉ dcmontoyaa@gmail.com

🌐 www.logic.univie.ac.at/~montoyd8/

Personal data

Born November 18, 1985. Arauca, Colombia.
Citizenship Colombian.
Visa Status Permanent Residency- Austria

Education

- 2013–2017 **Doctorate in Natural Sciences – Mathematics**, *Universität Wien*, Vienna, Austria.
Graduation with distinction.
Dissertation: On some cardinal invariants of the generalized Baire spaces.
Advisor: Sy-David Friedman.
- 2008–2010 **Magister in Mathematics**, *Universidad de los Andes*, Bogotá, Colombia.
Qualifying exam in mathematical logic.
Master Thesis: Forcing notions presented as quotients.
Advisor: Jörg Brendle. Co-advisor: Ramiro de La Vega Sinisterra.
- 2003–2008 **Mathematics**, *Universidad Nacional de Colombia*, Bogotá, Colombia.
With advanced courses in algebra and logic.
Undergraduate Thesis: Definable versions on combinatorial set theory.
Advisor: Andrés Villaveces Niño.

Employment

- From June 2022 **FWF Hertha Firnberg fellow**, *Project T-1100*, Universität Wien.
- 2021–2022 **Maternity leave**.
- 2020–2021 **FWF Hertha Firnberg fellow**, *Project T-1100*, Universität Wien.
- 2019–2020 **Maternity leave**.
- 2018–2019 **FWF postdoctoral fellow**, *Universität Wien*, Mentor: Vera Fischer.
- 2017–2018 **FWF postdoctoral fellow**, *Universität Wien*, Mentor: Sy-David Friedman.
- 2017 **FWF postdoctoral fellow**, *Universität Wien*, Mentor: Lyubomyr Zdomskyy.

Peer-reviewed publications

1. **Higher Independence**, *With Vera Fischer*, Accepted in the Journal of Symbolic Logic, 1-24. doi:10.1017/jsl.2022.33, 2022.
2. **Towers and gaps at uncountable cardinals**, *With Vera Fischer, Dániel Soukup and Jonathan Schilhan*, Fundamenta Mathematicae, DOI: 10.4064/fm109-9-2021, 2022.
3. **Ideals of independence**, *With Vera Fischer*, Archive for Mathematical Logic. Volume 58, pages 767-785, 2019.
4. **Cichoń's Diagram for uncountable cardinals**, *With Jörg Brendle, Andrew Brooke-Taylor and Sy-David Friedman*, Israel Journal of Mathematics 225(2), 959-1010. DOI:10.1007/s11856-018-1688-y, 2018.
5. **Coherent systems of finite support iterations**, *With Vera Fischer, Sy-David Friedman and Diego Mejía*, Journal of Symbolic Logic 83(1), 208-236, doi:10.1017/jsl.2017.20, 2018.
6. **Cardinal characteristics at κ in a small $\mathfrak{u}(\kappa)$ model**, *With Andrew Brooke-Taylor, Vera Fischer and Sy-David Friedman*, Annals of Pure and Applied Logic. Volume 168, Issue 1, Pages 37-49, 2017.

7. **A base-matrix lemma for sets of rationals modulo nowhere dense sets**, *With Jörg Brendle*, Archive for Mathematical Logic. Volume 51, Issue 3, Pages 305-317, 2012.

Invited conference talks

- July 2022 **Maximal almost disjointness and singulars**, *XIX Simposio Latinoamericano de Lógica Matemática (Upcoming) -Section on Set Theory*, San Jose, Costa Rica.
- June 2022 **Independence and singular cardinals**, *Logic Colloquium 2022- Section on Set Theory*, Reykjavik, Iceland.
- March 2022 **Infinite combinatorics on the real line**, *Día Internacional de las Matemáticas*, Universidad ECCI / Bogotá, Zoom.
- December 2021 **Independent families in set theory**, *Plenary talk at the 1er encuentro de Lógica Brasil-Colombia*, Zoom.
- November 2019 **The inequality $\mathfrak{p} = \mathfrak{t}$ and the generalized characteristics**, *DiPrisco Fest*, Bogotá, Colombia.
- September 2018 **Combinatorics on the space of generalized reals**, *European women in mathematics. Mini-Symposium of mathematical logic*, Graz, Austria.
- August 2018 **Some inequalities between cardinal invariants**, *KNAW Academy colloquium on generalised Baire spaces*, Amsterdam, The Netherlands.
- June 2018 **Cardinal invariants and the generalized Baire spaces**, *11th Young set theory workshop*, Lausanne, Switzerland.

Invited Seminar Talks

- May 2022 **Higher independence at regular cardinals**, *Leeds university Models and Sets seminar series*, Zoom.
- June 2021 **Independence at uncountable cardinals**, *Münster set theory seminar*, Zoom.
- November 2020 **Independence and uncountable cardinals**, *CUNY set theory seminar*, Zoom.

Contributed talks

- 2022 **Some remarks on independent families**, *Second Austrian Day of women in mathematics*, Zoom.
- 2021 **Independent families and singular cardinals**, *Research Seminar at the KGRC*, Zoom.
- 2019 **The equality $\mathfrak{p} = \mathfrak{t}$ and the generalized characteristics**, *Research Seminar at the KGRC*, Vienna, Austria.
- 2018 **On some ideals associated with independent families**, *Research Seminar at the KGRC*, Vienna, Austria.
- 2017 **The ultrafilter number on κ** , *CUNY Set Theory seminar*, New York, USA.
- 2017 **Cichoń's diagram for uncountable cardinals**, *Logic seminar at Rutgers University*, New Brunswick, USA.
- 2016 **The ultrafilter number on κ** , *Workshop on generalized Baire spaces*, Bonn, Germany.
- 2016 **Coherent systems of finite support iterations**, *RIMS Workshop on infinite Combinatorics and forcing theory*, Kyoto, Japan.
- 2015 **On Cichoń's diagram for uncountable κ** , *Hamburg workshop on set theory. Generalized Baire spaces.*, Hamburg, Germany.
- 2015 **Some cardinal invariants of the generalized Baire spaces**, *PhDs in Logic VII*, Vienna, Austria.
- 2012 **Forcing notions presented as quotients**, *15th Latin American symposium on mathematical logic*, Bogotá, Colombia.

Awards and Distinctions

- 2020-2023 **FWF Hertha Firnberg Fellowship**, Vienna, Austria.
Project Title: Singular cardinals and cardinal characteristics.
- 2009-2011 **Mazda foundation for arts and sciences scholarship**, Bogotá, Colombia.
Recognition given to outstanding students of mathematics, theoretical physics and music.

- 2008-2010 **Universidad de los Andes**, Bogotá, Colombia.
Master scholarship
- 2008 **Universidad Nacional de Colombia**, Bogotá, Colombia.
Best undergraduate thesis from the mathematics department
Work chosen to represent the university in the national contest of best thesis "Otto de Greiff".

Teaching Experience

- 2020 WS **Lektorin**, *Universität Wien*, Vienna, Austria.
Main Duties: Teaching exercise section of the course of introduction to mathematical logic
- 2016 WS **Graduate Assistant**, *Universität Wien*, Vienna, Austria.
Main Duties: Teaching exercise section of introduction to mathematical logic.
- 2012–2013 **Cathedra Professor**, *Universidad de América*, Bogotá, Colombia.
Main Duties: Teaching calculus and algebra courses to engineering students.
- 2012–2013 **Cathedra Professor**, *Universidad de los Andes*, Bogotá, Colombia.
Main Duties: Teaching exercise sections of calculus and algebra courses for engineering students.
- 2011–2012 **Cathedra Professor**, *Fundación Universidad Central*, Bogotá, Colombia.
Main Duties: Teaching calculus and algebra courses to engineering students.
- 2008–2011 **Graduate assistant**, *Universidad de los Andes*, Bogotá, Colombia.
Main Duties: Teaching exercise sections of calculus and algebra courses to engineering students.

Academic service

- 2022 **Panel de mujeres SLALM // Women's panel at the IX Latin American Symposium on Mathematical Logic**, *Organizer/Participant*, San José, Costa Rica.
- 2019 **Advanced class in set theory**, *Local organizer*, Vienna, Austria.
- 2018 **Set theory today: A conference in honor of Georg Cantor**, *Local organizer*, Vienna, Austria.
- Since 2021 **Archive for mathematical Logic**, *Reviewer*.
- Since 2019 **Journal of Symbolic Logic**, *Reviewer*.
- Since 2018 **Mathematical Reviews**, *Reviewer*.
- Since 2016 **Miscellanea Logica XI**, *Referee*.

Languages

- Spanish Native
English Fluent
German Fluent-Level C1
French Basic