Diana Carolina Montoya

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Personal data

Born	November 18, 1985. Arauca, Colombia.
Citizenship	Colombian.

Education

2013–2017	**Doctorate in Natural Sciences- Mathematics** , *Universität Wien*, Vienna, Austria.
	Graduation with distinction.
	Dissertation Title: 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.

Research interests

My research interests deal with set theory, specifically forcing, cardinal invariants of the continuum and its generalizations to the context of uncountable cardinals.

Employment

From April 2020	**FWF Hertha Firnberg fellow**, *Universität Wien*, Co-applicant: Vera Fischer.
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.

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.
Magister 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".

Invited conference talks

June 2018 **Cardinal invariants and the generalized Baire spaces**, *11th Young set theory workshop*, Laussane, Switzerland.

August 2018 **Some inequalities between cardinal invariants**, *KNAW Academy colloquium on generalised Baire spaces*, Amsterdam, The Netherlands.

September 2018 **Combinatorics on the space of generalized reals**, *European women in mathematics. Mini-Symposium of mathematical logic*, Graz, Austria.

November 2019 **The inequality $\mathfrak{p} = \mathfrak{t}$ and the generalized characteristics**, *DiPrisco Fest*, Bogota, Colombia.

Some contributed talks

2018 **On some ideals associated with independent families**, *Research Seminar at the KGRC*, Vienna, Austria.

2017 **The ultrafilter number on κ**, *CUNY Se Theory seminar*, New York, USA.

2017 **Cichon'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.

Peer-reviewed publications

1. **Ideals of independence**, *With Vera Fischer*, Archive for Mathematical Logic. Volume 58, pages 767-785, 2019.

2. **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.

3. **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.

4. **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.

5. **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.

Recent submissions and preprints

1. **Higher Independence**, *With Vera Fischer*, Submitted, 2020.

2. **The pseudo-intersection and tower numbers for uncountable cardinals**, *With Vera Fischer, Dániel Soukup and Jonathan Schilhan*, Submitted, 2019.

Teaching Experience

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 to 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.

2016 WS **Graduate Assitant**, *Universität Wien*, Vienna, Austria.
Main Duties:Teaching exercise sections of introduction to mathematical logic.

Academic service

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 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