

Cesar Ceballos

Personal information

Born in Colombia on October 9, 1987. Married, two children (2 & 5).

Main areas of research

Algebraic and geometric combinatorics, polytope theory, Hopf algebras, and diagonal harmonics.

Academic career and positions held

Current **Postdoc**, *Universität Wien, Austria*, since September 2015.

2013 – 2015 **Visitor Member**, *Fields Institute, Canada*.

2013 – 2015 **Banting Postdoctoral Fellow**, *York University, Canada*.

2012 – 2013 **Postdoc**, *Freie Universität Berlin, Germany*.

2009 – 2012 **Dr.rer.nat.**, *Freie Universität Berlin, Germany*, Summa Cum Laude.

Title – On associahedra and related topics.

Supervisor – Günter Ziegler.

2008 – 2009 **Master: Aspects of Calabi-Yau Geometries**, *Universiteit Utrecht, The Netherlands*.

2007 – 2008 **Master degree in mathematics**, *Universidad de Los Andes, Colombia*.

2002 – 2006 **Bachelor degree in mathematics**, *Universidad del Valle, Colombia*.

Selected awards

2013-2015 Banting Postdoctoral Fellowship, Government of Canada's most prestigious award for postdoctoral researches.

2009-2013 Doctoral and Postdoctoral Fellowships, RTG Methods for Discrete Structures.

2008-2009 MRI Master Class Fellowship.

2008 Student Scholarship Award for Art and Science, Mazda Foundation.

2008 Student Research Project Grant, Proyecto Semilla, Universidad de los Andes.

2007-2008 Master and Teaching Assistant Fellowship, Universidad de los Andes.

2007 Second best graduating undergraduate student, Universidad del Valle.

2006 Bronze Medal, IX Ibero-American Mathematical Olympiads for University Students.

Personal Grants

- 2013-2015 Banting Grant Award, Government of Canada, 120 000 €.
Project: Combinatorial Hopf Algebra of Polytopes and Structure Constants.

Cooperation Grants

- 2018-2019 Austria/France Scientific & Technological Cooperation, 9 160 €.
Austrian Federal Ministry of Education, Science and Research (BMBWF).
French Ministry of Foreign Affairs and International Development.
Project: Combinatorial, algebraic, and geometric properties of the weak order and its quotients.

Supervision of students

- 2014 – 2016 Andres Saldaña, Universidad del Valle, co-supervised with Federico Ardila.
Bachelor thesis: Tutte polynomials, knots, and medial graphs.
- 2014 – 2015 Hanner Bastidas, Universidad del Valle, co-supervised with Federico Ardila.
Bachelor thesis: Combinatorial properties of a robot moving in a rectangular grid.

Organization of scientific meetings

- 2018 CIMPA Research School: Combinatorics meets Algebra, Geometry and Optimization.
- 2016 CIMPA Research School: Algebraic, Enumerative and Geometric Combinatorics.
- 2014 ECCO'14, 4th Encuentro Colombiano de Combinatoria.
- 2012 ECCO'12, 3rd Encuentro Colombiano de Combinatoria.

Scientific committees

- 2014 Program Committee Member, ECCO'14.

Institutional responsibilities

- 2015 – ... Organizer, Combinatorics Working Seminar, University of Vienna.
- 2015 – 2016 Organizer, Rational Combinatorics Seminar, University of Vienna.
- 2013 – 2015 Organizer, Applied Algebra Seminar, York University.
- 2013 – 2015 Organizer, Algebraic Combinatorics Seminar, Fields Institute.
- 2013 – 2014 Organizer, Reading Seminar on Schubert Calculus, Fields Institute.
- 2012 – 2012 Organizer, Seminar on Polyhedral Combinatorics, FU Berlin.
- 2011 – 2012 Organizer, Seminar on Associahedra and Related Structures, FU Berlin.
- 2010 – 2011 Student Representative of the Berlin Mathematical School.

2010 – 2011 Active member and promoter of the BMS Women in Mathematics group, Berlin.

Outreach activities

Jun. 2016 Instructor, Clubes de Ciencia Colombia, Medellín. One week-long workshop on Mathematics and Robotics for mechanical engineering students.

Jun. 2016 Organizer, interactive science museum Parque Explora, Medellín. Public math lecture broadcast by television and internet stream.

Peer review activities

Journals Combinatorica, Discrete and Computational Geometry, European Journal of Combinatorics, Journal of Combinatorial Theory Series A, Memoirs of the American Mathematical Society, Revista Colombiana de Matemáticas.

Conferences Formal Power Series and Algebraic Combinatorics (FPSAC).

Publications

Publications 13 in international journals (*Adv. Math.*, *Trans. Amer. Math. Soc.*, *DCG*, *JCTA*, ...) 10 in international peer-reviewed conference proceedings (FPSAC, EuroComb, ...), 1 book chapter.

Teaching activities

2015 Professor, Differential Calculus with Applications, York University, Canada.

2013 Professor, Differential Calculus with Applications, York University, Canada.

2008 Instructor, Calculus III, Vector Calculus and Linear Algebra, Universidad de los Andes, Colombia.

2007 Instructor, Linear Algebra, Universidad de los Andes, Colombia.

2006 Instructor, Calculus I, Universidad del Valle, Colombia.

Key international collaborators in the last five years

Prof. Federico Ardila, San Francisco State University, USA.

Prof. Nantel Bergeron, York University, Canada.

Dr. Jean-Philippe Labbé, postdoc, Freie Universität Berlin, Germany.

Dr. Arnau Padrol, Maître de Conférences, IMJ, Univ. Paris 6, France.

Dr. Vincent Pilaud, CNRS at LIX, École Polytechnique, France.

Prof. Francisco Santos, University of Cantabria, Spain.

Prof. Günter M. Ziegler, Freie Universität Berlin, Germany.

Selected invited presentations

Algebraic and Geometric Combinatorics of Reflection Groups, Centre de Recherches Mathématiques, Montreal, Canada, Jun 2017.

UBC Math Colloquium, University of British Columbia, Canada, Jan 2015.

Coloquio Latinoamericano de Álgebra, Combinatorics Section, Lima, Peru, Dec 2014.

Coloquio Latinoamericano de Álgebra, Hopf algebras Section, Lima, Peru, Dec 2014.

Hall and Cluster Algebras, Centre de Recherches Mathématiques, Montreal, Canada, May 2014.

60th anniversary of the Mathematics Department, Universidad del Valle, Colombia, Jan 2014.

Invited presentations at international seminars

Geometry and Analysis on Groups Research Seminar, University of Vienna, Austria, Apr 2017.

Algebra and Number Theory Seminar, Graz, Austria, Nov 2016.

Seminar at École Polytechnique, Palaiseau, France, Apr 2016.

Discrete Geometry and Combinatorics Seminar, Cornell University, USA, Nov 2014.

Combinatorics Seminar, University of Washington, USA, Mar 2014.

Combinatorics Seminar, University of Minnesota, USA, May 2013.

Algebra-Geometry-Combinatorics Seminar, San Francisco State University, USA, Nov 2011.

Algebra and Discrete Mathematics Seminar, UC Davis, USA, Nov 2011.

Applied Algebra Seminar, York University, Canada, Nov 2011.

LaCIM Seminar, LaCIM, Canada, Nov 2011.

Graduate Colloquium, Zurich, Switzerland, Nov 2010.

MDS Monday Colloquium, Berlin, Germany, May 2009.

Other presentations at international conferences and seminars

19th ÖMG Congress and Annual DMV Meeting, Salzburg, Austria, Sep 2017.

European Conference on Combinatorics, Graph Theory and Applications, Vienna, Austria, Aug 2017.

Formal Power Series and Algebraic Combinatorics, FPSAC, London, England, Jul 2017.

The 78th Séminaire Lotharingien de Combinatoire, Domaine Saint-Jacques, France, Mar 2017.

The 76th Séminaire Lotharingien de Combinatoire, Domaine Saint-Jacques, France, Apr 2016.

Formal Power Series and Algebraic Combinatorics, FPSAC, Daejeon, South Korea, Jul 2015.

XIX Colombian Mathematics Conference, Barranquilla, Colombia, Jul 2013.

Formal Power Series and Algebraic Combinatorics, FPSAC, Paris, France, Jun 2013.

Formal Power Series and Algebraic Combinatorics, FPSAC, Nagoya, Japan, Jul-Aug 2012.

Graduate Student Combinatorics Seminar, San Francisco State University, USA, Apr 2008.

Graduate Student Combinatorics Conference, UC Davis, USA, Apr 2008.

References

Prof. Federico Ardila, San Francisco State University, USA.

Prof. Nantel Bergeron, York University, Canada.

Prof. Christian Krattenthaler, Universität Wien, Austria.

Prof. Francisco Santos, University of Cantabria, Spain.

Prof. Günter M. Ziegler, Freie Universität Berlin, Germany.

(contact information available upon request)