

# CURRICULUM VITAE

CAMILO SARMIENTO

JANUARY 8, 2018

## PERSONAL INFORMATION

Date of birth: Sep. 11, 1986  
Place of birth: Bogotá, Colombia  
Cityzenship: Colombian  
Married, two children (ages 4, 0)

## CONTACT

Universität Leipzig  
Mathematisches Institut  
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Augustusplatz 10  
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<http://www.math.uni-leipzig.de/~sarmiento/>

## POSITIONS

- Dec. 2016 – Postdoctoral researcher, Universität Leipzig, Germany  
Mentor: Karim Adiprasito
- 2016 Visiting scientist, Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany
- 2013 – 2015 Postdoctoral researcher, Otto-von-Guericke-Universität Magdeburg, Germany  
Mentor: Thomas Kahle

## EDUCATION

- 2010 – 2013 PhD in Mathematics, Universität Leipzig. Carried out as member of the International Max Planck Research School of the Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany. Advisor: Jürgen Jost
- 2009 PreDoc preparation period for doctoral studies at the International Max Planck Research School of the Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany
- 2008 Enrolled in M.Sc. in Physics, Universidad de los Andes, Bogotá, Colombia
- 2004 – 2007 B.Sc. in Physics, Universidad de los Andes, Bogotá, Colombia.  
Advisor: Andrés Fernando Reyes Lega

## GRANTS AND AWARDS

- 2017 *Travel grant (795 EUR)*, awarded by the German Academic Exchange Service (DAAD) to give a talk at the 29th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC 2017) in London, United Kingdom
- 2015 *Travel grant (1670 EUR)*, awarded by the German Academic Exchange Service (DAAD) to give a talk at the 27th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC 2015) in Daejeon, South Korea
- 2010 *PhD scholarship* to carry out doctoral studies, awarded by the Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany
- 2009 *PreDoc scholarship*, awarded by the Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany
- 2003 *Mejor estudiante en las pruebas de estado*, Colegio San Viator, Bogotá, Colombia

## RESEARCH INTERESTS

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Combinatorics and its relations to geometry, algebra and topology; applications of algebraic geometry and commutative algebra

## LIST OF PUBLICATIONS

## IN PREPARATION

- (with C. Ceballos and A. Padrol)  *$\nu$ -Tamari lattices via subword complexes*

## REFEREED JOURNAL ARTICLES

- (with C. Ceballos and A. Padrol) *Geometry of  $\nu$ -Tamari lattices in types A and B*, Transactions of the American Mathematical Society (in press)
- (with T. Kahle and T. Windisch) *Parity binomial edge ideals*, Journal of Algebraic Combinatorics, 44(1) (2016) 99-117 (<http://dx.doi.org/10.1007/s10801-015-0657-3>)
- (with C. Ceballos and A. Padrol) *Dyck path triangulations and extendability*, Journal of Combinatorial Theory, Series A 131 (2015) 187-208 (<http://dx.doi.org/10.1016/j.jcta.2014.10.009>)
- (with S. Potka) *Betti numbers of cut ideals of trees*, Journal of Algebraic Statistics, 4(1) (2013) 108-117 (<http://dx.doi.org/10.18409/jas.v4i1.21>)

## IN REFEREED CONFERENCE PROCEEDINGS

- (with C. Ceballos and A. Padrol)  *$\nu$ -Tamari lattices via subword complexes*, Electronic Notes in Discrete Mathematics 61 (2017) 215-221  
Proceedings of the European Conference on Combinatorics, Graph Theory and Applications (EUROCOMB'17) (<https://doi.org/10.1016/j.endm.2017.06.041>)
- (with C. Ceballos and A. Padrol) *Geometry of  $\nu$ -Tamari lattices in types A and B*, Séminaire Lotharingien de Combinatoire, 78B.68 (2017), 12 pp.  
Proceedings of the 29th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC 2017) (<http://www.mat.univie.ac.at/~slc/wpapers/FPSAC2017/68%20Ceballos%20Padrol%20Sarmiento.pdf>)
- (with C. Ceballos and A. Padrol) *Tropical Catalan subdivisions*, Electronic Notes in Discrete Mathematics 54 (2016) 187-192  
Proceedings of Discrete Mathematics Days - JMDA16 (<http://dx.doi.org/10.1016/j.endm.2016.09.033>)
- (with C. Ceballos and A. Padrol) *Dyck path triangulations and extendability (extended abstract)*, in Proceedings of the 27th International Conference on Formal Power Series and Algebraic Combinatorics, Daejeon, (2015) 73-84  
Proceedings of the 27th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC 2015) (<https://fpsac2015.sciencesconf.org/70974/document>)

## THESES

- *Concerning triangulations of products of simplices*, doctoral thesis, Universität Leipzig (available at <http://nbn-resolving.de/urn:nbn:de:bsz:15-qucosa-146377>)
- *Quantum electrodynamics in external fields*, undergraduate thesis, Universidad de los Andes (unpublished)

TEACHING EXPERIENCE

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- 2017 *Teaching assistant*, Numerical Analysis, Optimization, Universität Leipzig, Germany
- 2015 *Teaching assistant*, Commutative Algebra, Otto-von-Guericke-Universität Magdeburg, Germany
- 2008 *Teaching assistant*, Physics 1 for biologists (classical mechanics), Physics 2 (thermodynamics and electromagnetism), Universidad de los Andes, Bogotá, Colombia  
*Instructor*, Experimental Physics 1, Experimental Physics 2, Universidad de los Andes, Bogotá, Colombia
- 2007 *Teaching assistant*, Physics 3 (electromagnetism), Universidad de los Andes, Bogotá, Colombia  
*Instructor*, Experimental Physics 2, Universidad de los Andes, Bogotá, Colombia
- 2006 *Teaching assistant*, Physics 1 (classical mechanics), Universidad de los Andes, Bogotá, Colombia

SELECTED TALKS

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- 2017 *29th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC)*, Queen Mary University of London, United Kingdom (contributed talk)
- 2016 *Institute for Algebra and Geometry Oberseminar*, Otto-von-Guericke-Universität Magdeburg, Germany (invited talk)
- 2015 *27th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC)*, KAIST, Daejeon, South Korea (contributed talk)
- 2015 *Special session on convex and integral geometry of the Congress of the Spanish Royal Mathematical Society*, Universidad de Granada, Spain (invited talk)
- 2014 *Discrete Mathematics/Geometry Seminar*, Technische Universität Berlin, Germany (invited talk)
- 2014 *Prague Stochastics 2014, UTIA*, Prague, Czech Republic (contributed talk)
- 2014 *Cuarto Encuentro Colombiano de Combinatoria (ECCO 2014)*, Universidad de los Andes, Bogotá, Colombia (contributed talk)
- 2014 *Discrete Geometry Seminar*, Freie Universität Berlin, Germany (invited talk)
- 2014 *Mathematics Colloquium*, Universidad de los Andes, Bogotá, Colombia (invited talk)
- 2014 *Algebraic Coalescent Seminar*, Goethe-Universität Frankfurt, Germany (invited talk)
- 2013 *Discrete and Convex Geometry Seminar*, Otto-von-Guericke-Universität Magdeburg, Germany (invited talk)

POSTERS

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- 2016 *Einstein Workshop on Lattice Polytopes*, Freie Universität Berlin, Germany
- 2015 *Third ERC Workshop Discrete Models in Geometry and Topology*, Freie Universität Berlin, Germany
- 2015 *Workshop Homology: Theoretical and Computational Aspects*, Università degli Studi di Genova, Italy
- 2013 *Second ERC Workshop Delaunay Geometry: Polytopes, Triangulations and Spheres*, Freie Universität Berlin, Germany
- 2012 *Workshop on Combinatorics*, Universidade de Lisboa, Portugal

## PROFESSIONAL ACTIVITIES

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- 2016 – Organizing committee, *Sixth Encuentro Colombiano de Combinatoria (ECCO 2018)* – CIMPA Research School: *Combinatorics meets Algebra, Geometry and Optimization*, to take place at the Universidad del Norte, Barranquilla, Colombia (<http://ecco2018.combinatoria.co>)
- 2014 – 2016 Organizing committee, *Fifth Encuentro Colombiano de Combinatoria (ECCO 2016)* – CIMPA Research School: *Algebraic, Enumerative and Geometric Combinatorics*, Universidad Nacional sede Medellín, Colombia (<http://ecco2016.combinatoria.co>)
- 2013 (with Yangjing Long) Organizer of a reading seminar on topological obstructions to graph colorings, Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany

Reviewer for: *European Journal of Combinatorics, Discrete and Computational Geometry*

## PROGRAMMING SKILLS

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*Programming languages:* C, C++, Python, Fortran77

*Mathematical software:* SageMath, Macaulay2, polymake

## LANGUAGE SKILLS

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Spanish: mother tongue

English: fluent (TOEFL iBT 110/120 – dated January 18, 2008)

German: fluent (TestDaF Reading, Listening, Speaking: TDN 5/5; Writing: TDN 4/5)

French: basic knowledge