

Curriculum Vitae
Carlos M. Nicolas

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Education

Ph.D. in Mathematics, 2008
University of Kentucky
Advisor: Dr. Carl W. Lee
B.S. in Mathematics, 2000
Simón Bolívar University (Venezuela)

Employment

August 2019 – present: Instructor of Mathematics, Virginia Tech
August 2012 – May 2019: Assistant/Associate Professor of Mathematics, Ferrum College
August 2008 – July 2012: Assistant Professor, University of North Carolina Greensboro
August 2004 – May 2008: Teaching/Research Assistant at the University of Kentucky

Teaching Experience (at various institutions): Intermediate Algebra, Introductory Finite Math, Precalculus I, Precalculus II, Introduction to Statistics, Calculus I, Calculus II, Multivariable Calculus, Mathematical Reasoning, Introduction to Number Theory, Graph Theory, Linear Algebra I, Linear Algebra II, Discrete Mathematics, Abstract Algebra, Axiomatic Set Theory, Senior Seminar. Graduate-level Graph Theory.

Research Interests

Combinatorial and computational geometry, discrete geometry, polytope theory.

Publications

- J. García and C. M. Nicolás, Planar point sets with large minimum convex decompositions, *Graphs and Combinatorics*. 29 (2013), 1347–1353.
- C. M. Nicolás, A stronger bijection between 2-triangulations and pairs of non-crossing Dyck paths. 21st International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC 2009), *Discrete Math. and Theor. Comput. Sci. Proceedings*, AK (2009), 697–708.
- M. Abellanas, P. Bose, J. García, F. Hurtado, C. M. Nicolás and P. Ramos, Higher-order Delaunay triangulations, *Internat. J. of Computational Geom. and Applications*. 19 (2009), no. 6, 595–615.
- C. M. Nicolás, The empty hexagon theorem, *Discrete and Computational Geometry*. 38 (2007), 389–397.

Invited Talks

- Teaching combinatorial convexity applications in an undergraduate Linear Algebra class.* 2017 conference of the International Linear Algebra Society, Ames, Iowa, July, 2017.
- A superlinear bound for the number of empty pentagons in planar point sets.* Southeastern Section Meeting of the American Mathematical Society, Athens, Georgia, March 2016.
- What should be the content of a developmental algebra class?* Mathematical Association of America MathFest, Washington D.C., August 2015.

Bounds on the number of relatively convex subsets of a planar point set. Southeastern Section Meeting of the American Mathematical Society, Greensboro, North Carolina, November 2014.

What is Combinatorial Geometry? Seminar of the School of Natural Sciences and Mathematics, Ferrum College, March 2014.

Interval decomposition of k -edges. Southeastern Section Meeting of the American Mathematical Society, Richmond, Virginia, November 2010.

A stronger bijection between 2-triangulations and pairs of non-crossing Dyck paths (poster presentation), International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC), Hagenberg, Austria, July 2009.

Defining k -triangulations for points in general position. AMS Southeastern Section Meeting, Raleigh, North Carolina, April 2009.

Upper bounds for the minimum convex subdivisions of points in the plane, Fall 2007 AMS Southeastern Sectional Meeting, November 2007.

Service and Professional Activities

Judge, Virginia Science Fair 2014, 2015, 2019.

Coordinator of the Mathematics Program at Ferrum College, 2014–2016.

Served on multiple Departmental and School committees at Ferrum College, including the Academic Standards Committee, the Professional Development Advisory Committee, the Teacher Education Committee, the Information Services Advisory Committee and various search committees.

Co-organizer (with J. Cooper, K. Millan and C. Smyth) of the special session on *New Developments in Graph Theory*. AMS Section Meeting, Winston-Salem, North Carolina, September 2011.

Organizer of the special session on *Discrete Mathematics*. MAA Southeastern Section Conference, Tuscaloosa, Alabama, April 2011.

Co-organizer (with J. Rychtar) of the special session on *Applied and Combinatorial Mathematics*. MAA Southeastern Section Conference, Elon, North Carolina, March 2010.

Grants and Fellowships

Section NExT (New Experiences in Teaching) Fellow of the MAA VA-DC-MD section, 2012–2014.

From the University of Kentucky:

Presidential Fellowship, 2007–2008

Max Steckler Fellowship, Summer 2007

Kentucky Opportunity Fellowship, 2006–2007

Simón Bolívar University:

Excellence Award, 1999

Excellence Award, 1998

Memberships

Member of the American Mathematical Society.

Member of the Mathematical Association of America.

Residence Status and Citizenship

U.S. permanent resident.

Citizen of Spain and Venezuela.