

# Tristram Bogart

---

## Basic Information

**Birthdate:** February 2, 1980

**Citizenship:** United States

**Languages:** English (native), Spanish (fluent), French (basic)

**Address:** Departamento de Matemáticas, Universidad de los Andes, Cra 1. No 18A-10, 111711 Bogotá, Colombia

**Phone:** +57 1 3394949, ext. 5223

**Email:** tc.bogart22@uniandes.edu.co

**Web page:** <http://www.prof.uniandes.edu.co/~tc.bogart22>

## Education

Ph.D. Mathematics, University of Washington, June 2007. Adviser: Rekha R. Thomas.

B.A. Mathematics, Oberlin College, 2001; graduated with high honors.

Budapest Semesters in Mathematics. Budapest, Hungary, January–May 2000.

## Professional Experience

**Associate Professor**, Departamento de Matemáticas, Universidad de los Andes, February 2015–present.

**Assistant Professor**, Departamento de Matemáticas, Universidad de los Andes, August 2011–January 2015.

**NSF/MSRI Postdoctoral Fellow**, Mathematics Department, San Francisco State University, August 2010–May 2011.

**Coleman Postdoctoral Fellow**, Department of Mathematics and Statistics, Queen's University, Kingston, Ontario, Canada, July 2007–June 2010.

**Postdoctoral Fellow**, Mathematical Sciences Research Institute, August–December 2009.

**Long-term Visitor**, Institute for Mathematics and its Applications, Minneapolis, January–March 2007.

## Refereed Publications

1. Parametrized Presburger arithmetic: logic, combinatorics, and quasi-polynomial behavior (with John Goodrick and Kevin Woods.) *Discrete Analysis* (2017), #4.
2. A lower bound for the determinantal complexity of a hypersurface (with Jarod Alper and Mauricio Velasco.) To appear in *Foundations of Computational Mathematics*.
3. Superlinear subset partition graphs with strong adjacency, endpoint-count, and dimension reduction (with Edward D. Kim.) To appear in *Combinatorica*.
4. Finitely many smooth  $d$ -polytopes with  $n$  lattice points (with C. Haase, M. Hering, B. Lorenz, B. Nill, A. Paffenholz, G. Rote, F. Santos, and H. Schenck.) *Israel Journal of Mathematics*, v. 207 (1), 2015, pp. 301-329.

5. Hom-polytopes (with Mark Contois and Joseph Gubeladze.) *Mathematische Zeitschrift*, v. 272 (3–4), 2013, pp. 1267-1296.
6. Enumeration of Golomb Rulers and Acyclic Orientations of Mixed Graphs (with Matthias Beck and Tu Pham.) *Electronic Journal of Combinatorics* v. 19 (3), 2012, P42.
7. Universal Gröbner bases of colored partition identities (with Raymond Hemmecke and Sonja Petrović.) *Experimental Mathematics* v. 21 (4), 2012, pp. 395-401.
8. Obstructions to lifting tropical curves in surfaces in 3-space (with Eric Katz.) *Siam Journal on Discrete Mathematics*, v. 26 (3), 2012, pp. 1050-1067.
9. Riffs on the infinite ping-pong ball conundrum (with Ami Mamolo.) *International Journal of Mathematical Education in Science and Technology* v. 42 (5), 2011, pp. 615–623.
10. Small Chvátal rank (with Annie Raymond and Rekha Thomas.) *Mathematical Programming, Series B* v. 124 (1-2), 2010, pp. 45–68.
11. The circuit ideal of a vector configuration (with Anders Jensen and Rekha Thomas) *Journal of Algebra* v. 309 (2), 2007, pp. 518-542.
12. Computing tropical varieties (with Anders Jensen, David Speyer, Bernd Sturmfels, and Rekha Thomas.) *Journal of Symbolic Computation* v. 42, 2007, no. 1-2, pp. 54-73.

### Advising

Juan Camilo Torres, Ph.D student, Los Andes, current.

Daniel Tamayo, undergraduate thesis student, Los Andes, current.

Juan Pablo Henao, undergraduate thesis student, Los Andes, December 2015.

Daniel Ávila, undergraduate thesis student, Los Andes, June 2014.

Jorge Alberto Olarte, undergraduate thesis student, Los Andes, June 2014.

Federico Castillo, undergraduate thesis student, Los Andes, June 2012.

Tu Pham, M.Sc. student, San Francisco State University (coadvised with Matthias Beck), June 2011.

### Invited Talks

Date	Location	Event
February 2017	U. Andres Bello	Minicourse on Algebraic Complexity
24 May 2016	U. de Los Andes	Escuela de Física Matemática
9 January 2016	Seattle	Joint Mathematics Meetings
14 October 2015	U. de Cauca	Math Colloquium
10 September 2015	U. de Los Andes	Math Colloquium
12 August 2014	Pasto, Colombia	ALTENCOA-6
15 January 2014	U. Washington	Combinatorics Seminar
11 December 2013	San Francisco State	Algebra-Geometry-Combinatorics Seminar
July 2013	Barranquilla, Colombia	XIX Congreso Colombiano de Matemáticas
21 June 2013	Aarhus Universitet, Denmark	Optimization Seminar
31 May 2013	U. de Los Andes	Escuela de Física Matemática
21 January 2013	San Diego	Joint Mathematics Meetings
17 September 2012	U. de Los Andes	Mathematics First-Year Seminar
10 July 2012	Minneapolis, MN	SIAM Annual Meeting

6 October 2011	U. de Los Andes	Math Colloquium
June 2011	Edmonton	CMS Summer Meeting
19 May 2011	Darmstadt, Germany	SIAM Conference on Optimization
12 May 2011	Saarbrücken, Germany	Algebraic Geometry Seminar
14 April 2011	UC Davis	Algebra and Discrete Mathematics Seminar
9 February 2011	Sonoma State	Math Colloquium
16 October 2010	UC Berkeley	Bay Area Discrete Math Day
June 2010	Osaka, Japan	Gröbner Bases and the Industrial Society
20 January 2010	Queen's University	Algebraic Geometry Seminar
6 November 2009	MSRI	Postdoctoral Seminar
29 May 2009	Heidelberg University	Algebra & Number Theory Seminar
17 February 2009	Ohio State	Algebraic Geometry Seminar
7 January 2009	Washington D.C.	Joint Mathematics Meetings
7 December 2008	Ottawa	CMS Winter Meeting
18 October 2008	Kingston, ON	Route 81 Conference
6 October 2008	Queen's University	Algebraic Geometry Seminar
22 June 2008	Snowbird, UT	Workshop: Comput. Algebra and Convexity
9 May 2008	San Francisco State	Algebra-Geometry-Combinatorics Seminar
8 April 2008	Univ. of Washington	Algebra Seminar
24 September 2007	Queen's University	Algebraic Geometry Seminar
13 February 2007	Univ. of Minnesota	IMA Postdoc Seminar
15 November 2006	UC Davis	Discrete Math and Repr. Theory Seminar
13 November 2006	UC Berkeley	Combinatorics Seminar
18 January 2006	Univ. of Washington	Combinatorics and Geometry Seminar
21 October 2005	San Francisco State	Algebra-Geometry-Combinatorics Seminar
12 May 2005	Univ. of Washington	Current Problems Seminar

## Posters

Date	Location	Event
June 2015	Trento, Italy	MEGA 2015
9-11 April 2010	Amherst, MA	Algebraic Geometry Northeastern Series
September 2006	Alcalá de Henares, Spain	Workshop on Geom. and Top. Combinatorics

## Awards

AMS Math. Research Community: *Computational Algebra and Convexity*, 2008–2009.  
University of Washington VIGRE fellowship, 2001–02 and 2004–05.  
University of Washington Graduate School Merit Award, 2001.  
Oberlin Rebecca Cary Orr Memorial Prize in Mathematics, 2001

## Professional Activities

Linear algebra course coordinator, August 2015–June 2016.  
Los Andes mathematics colloquium coordinator, January 2013–December 2014.  
Scientific committee for 5. *Encuentro Colombiano de Combinatoria*, Universidad Nacional de Colombia (Medellin), June 2016.

Local organizer for 4. *Encuentro Colombiano de Combinatoria*, Los Andes, June 2014.

Scientific and local committees for 3. *Encuentro Colombiano de Combinatoria*, Los Andes, June 2012.

Organizer for *22nd Bay Area Discrete Math Day*. San Francisco State, 30 April 2010.

Local organizing committee for *Formal Power Series & Algebraic Combinatorics 2010*. San Francisco State, 2–6 August 2010.

Grant reviewer for the National Security Agency

Referee for the journals *Algebraic Colloquium*, *The American Mathematical Monthly*, *Electronic Journal of Combinatorics*, *International Journal of Algebra and Computation*, *International Transactions in Operational Research*, *Journal of Algebraic Combinatorics*, *Journal of Combinatorial Theory, Ser. A*, *Journal of Pure and Applied Algebra*, *Journal of Symbolic Computation*, *Lecturas Matemáticas*, *Mathematics of Operations Research*, *Revista Integración*, *SIAM Journal on Discrete Mathematics*.

Guest lecturer in the course *Computational Algebra and Algebraic Geometry*, taught by Susan Colley at Oberlin College, 1–3 December 2008.

Research assistant to Joseph Gubeladze. San Francisco State, 1 May – 20 June 2008.

Assistant at the tutorial *Algebraic Algorithms in Optimization*, Institute for Mathematics and its Applications, Minneapolis, 12–13 January 2007.

Organizer of U. of Washington VIGRE examples seminar, winter and spring 2005.

Organizer of U. of Washington math department's current problems seminar, 2003–2004.

Summer REU under Vic Reiner. U. of Minnesota, June–July 2000.

## Teaching Experience

Probability, spring 2017 (Los Andes)

Linear algebra, spring 2017 (Los Andes)

Enumerative combinatorics, fall 2016 (Los Andes)

Linear algebra, fall 2016 (Los Andes)

Abstract algebra II, spring 2016 (Los Andes)

Linear algebra, spring 2016 (Los Andes)

Computational complexity, fall 2015 (Los Andes)

Linear algebra, fall 2015 (Los Andes)

Foundations of mathematics, spring 2015 (Los Andes)

Differential equations, spring 2015 (Los Andes)

Permutation groups, fall 2014 (Los Andes)

Linear algebra, fall 2014 (Los Andes)

Algebraic combinatorics, spring 2014 (Los Andes)

Linear algebra, spring 2014 (Los Andes)

Number theory, fall 2013 (Los Andes)

Linear algebra, fall 2013 (Los Andes)

Linear algebra, spring 2013 (Los Andes)  
Linear algebra, spring 2013 (Los Andes)  
Foundations of mathematics, fall 2012 (Los Andes)  
Linear algebra, fall 2012 (Los Andes)  
Introduction to combinatorics, spring 2012 (Los Andes)  
Integral calculus, spring 2012 (Los Andes)  
Differential calculus, fall 2011 (Los Andes)  
Calculus I, autumn 2010 (San Francisco State)  
Directed reading: number theory, autumn 2010 (San Francisco State)  
Linear algebra, winter 2010 (Queen's)  
Linear algebra II, winter 2009 (Queen's)  
Calculus I, autumn 2008 (Queen's)  
Calculus for economics, autumn 2007 and winter 2008 (Queen's)  
Linear algebra, spring 2007 (Washington)  
Calculus III, spring 2004 and spring 2006 (Washington)  
Calculus I, summer 2003 (Washington)  
Precalculus, spring 2003 (Washington)  
Teaching assistant: combinatorics, autumn 2003 and winter 2004 (Washington.)  
Teaching assistant: mathematical modelling, autumn 2005 (Washington)  
Teaching assistant: math for life sciences, 2002–2003 (Washington)  
Teaching assistant: calculus I, autumn 2001 (Washington)  
Mathematics tutor: 1999–2001 (Oberlin)