

Daniel Roberto Perrucci

Personal Data

Birthday: 25/02/1979

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Position

- *Profesor Adjunto*, Departamento de Matemática, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires.
- *Investigador Asistente*, CONICET.

Degree

- *Doctor de la Universidad de Buenos Aires, área Matemática*, December 2008.
- *Licenciado en Ciencias Matemáticas*, Universidad de Buenos Aires, July 2002.

Publications

- G. Jeronimo, D. Perrucci, A probabilistic symbolic algorithm to find the minimum of a polynomial function on a basic closed semialgebraic set. *Discrete Comput. Geom.* 52 (2014), no. 2, 260-277.
- D. Perrucci, M.-F. Roy, Zero-nonzero and real-nonreal sign determination. *Linear Algebra Appl.* 439 (2013), no. 10, 3016-3030.
- G. Jeronimo, D. Perrucci, E. Tsigaridas, On the minimum of a polynomial function on a basic closed semialgebraic set and applications. *SIAM J. Optim.* 23 (2013), no. 1, 241-255.
- D. Perrucci, Linear solving for sign determination. *Theoret. Comput. Sci.* 412 (2011), no. 35, 4715-4720.
- G. Jeronimo, D. Perrucci, On the minimum of a positive polynomial over the standard simplex. *J. Symbolic Comput.* 45 (2010), no. 4, 434-442.

- G. Jeronimo, D. Perrucci, J. Sabia, On sign conditions over real multivariate polynomials. *Discrete Comput. Geom.* 44 (2010), no. 1, 195-222.
- G. Jeronimo, D. Perrucci, J. Sabia, A parametric representation of totally mixed Nash equilibria. *Comput. Math. Appl.* 58 (2009), no. 6, 1126-1141.
- D. Perrucci, J. Sabia, Real roots of univariate polynomials and straight line programs. *J. Discrete Algorithms* 5 (2007), no. 3, 471-478.
- D. Perrucci, Some bounds for the number of components of real zero sets of sparse polynomials. *Discrete Comput. Geom.* 34 (2005), no. 3, 475-495.

Invited talks

- *Elementary recursive degree bounds for Positivstellensatz, Hilbert 17th problem and Real Nullstellensatz (part I)*, Foundations of Computational Mathematics 2014, Real Number Complexity Workshop, Montevideo, Uruguay, December 11-20, 2014.
- *An elementary recursive bound for the Positivstellensatz*, Mathematics, Algorithms and Proofs 2012, Konstanz, Germany, September 17-21, 2012.
- *Algoritmos y conjuntos semialgebraicos*, XVII Encuentro Rioplatense de Álgebra y Geometría Algebraica, Montevideo, Uruguay, October 12-14, 2007.

Other Congress and Meeting Participation

- *A symbolic approach to polynomial optimization over basic closed semialgebraic sets*, “Tools from Algebraic Geometry” Workshop, “Algebraic Techniques for Combinatorial and Computational Geometry” Program, IPAM, Los Angeles, USA, April 7-14, 2014.
- *Elementary recursive bounds for Hilbert 17th problem*, “Polyhedra, Lattices, Algebra, and Moments” Workshop, “Inverse Moment Problems: the Crossroads of Analysis, Algebra, Discrete Geometry and Combinatorics” Program, IMS, Singapore, January 7-16, 2014.
- *On the minimum of a positive polynomial over the standard simplex*, “New Trends in Algorithms in Real Algebraic Geometry” Seminar, MFO, Oberwolfach, Germany, November 22-28, 2009.
- *Paper presentation: J. Nash, Real algebraic manifolds, Annals of Mathematics (2) 56 (1952), 405–421*, Reading meeting: Sources of Real Algebraic Geometry, Belle Ile, France, June 20-25 de 2005.

Talks at Seminars

- *Resolución lineal en el problema de determinación de signos*, Seminari de Geometria Algebraica, Departament d'Àlgebra i Geometria, Facultat de Matemàtiques, Universitat de Barcelona, Barcelona, Spain, November 5, 2010.
- *Linear solving for sign determination*, Séminaire de Calcul Formel SALSA, LIP6, Université Pierre et Marie Curie, Paris, France, October 29, 2010.
- *Linear solving for sign determination*, Séminaire de Calcul Formel et Complexité, IRMAR, Université de Rennes 1, Rennes, France, October 8, 2010.

Visits

- IRMAR, Université de Rennes 1, Rennes, France, September - December 2010.
- INRIA Sophia-Antipolis, September 2002.

Teaching Experience

- Departamento de Matemática, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires:
 - *Profesor Adjunto*, April 2010 - present.
 - *Jefe de Trabajos Prácticos*, November 2005 - February 2007 and April 2008 - March 2010; *Ayudante de 1ra*, July 2003 - October 2005.
 - *Ayudante de 2da*, September 2000 - June 2003.
- Ciclo Básico Común, Universidad de Buenos Aires:
 - *Ayudante de 2da*, April 2000 - July 2000 and April 2002 - July 2002.
- Escuela de Ciencia y Tecnología, Universidad Nacional de General San Martín:
 - *Ayudante de 1ra*, April 2002 - March 2003.

Fellowships

- *Beca Posdoctoral* CONICET, April 2010 - January 2012.
- *Beca Doctoral* CONICET, April 2003 - March 2008.