

Curriculum Vitae

Name : Cecília Salgado Guimarães da Silva

Birth date and place of birth : 27th of February 1982, Rio de Janeiro, Brazil

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Academic history

From August 2012 : Associate professor at UFRJ (Rio de Janeiro)

2011-2012 : Guest researcher at Max Planck Institute (Bonn) and postdoc at Universiteit Leiden

2009 – 2011 : Postdoc at Universiteit Leiden

2005 – 2009 : PhD in Mathematics at Université Paris VII under the supervision of M. Hindry

2003 – 2005 : Master in Pure Mathematics at IMPA – Rio de Janeiro – Brazil

2000 – 2002 : Undergraduate studies in Mathematics at the Federal University of Rio de Janeiro (UFRJ)

Research field

Arithmetic Geometry, Number Theory.

Publications

- 1) Arithmetic and geometry of rational elliptic surfaces (in preparation)
- 2) Density of rational points on del Pezzo surfaces of degree one (in preparation jointly with Ronald van Luijk)
- 3) Del Pezzo surfaces (Survey in preparation jointly with Damiano Testa and Tony Várilly-Alvarado)
- 4) On the rank of the fibres of rational elliptic surfaces (accepted for publication at Algebra and Number Theory)
- 5) On the rank of the fibres of elliptic K3 surfaces – *Bull. Braz. Math. Soc.* 42(2), p.1-10, 2011
- 6) Constructions of linear pencils of cubics with Mordell-Weil rank five – *Comm. Math. St. Pauli* 58, No. 2, 2009
- 7) Rank of elliptic surfaces and base changes – *C.R. de l'Académie de Sciences Math.* 347, 2009
- 8) Rang des surfaces elliptiques : théorèmes de comparaison – *thèse de doctorat*, 2009

Prizes, grants, scholarships and positions

2011 : Hendrik-Casimir Karl-Ziegler Research Award by KNAW (Dutch Royal Academy of Sciences and Nordreihn Westfalen Academy of Sciences)
2011– 2012 : Max Planck Institute stipend– Bonn
March 2010 : Visitor at Hausdorff Institute – Bonn (Junior trimester in Algebra and Number Theory)
2009 – 2011 : Postdoc – Universiteit Leiden
August 2009 and January 2011 : Visitor at IMPA
2008 – 2009 : Attachée temporaire d’enseignement et recherche (ATER) – Univ. Paris VII
April 2009 : Visitor at Hausdorff Institute – Bonn (Trimester in Diophantine equations)
2005 – 2008 : CAPES (Brazil) Scholarship for PhD at Université Paris VII
January 2005 – July 2005 : IMPA
2003 – 2004 : Master (IMPA)
2001 – 2002 : Scientific Initiation : Diophantine Equations (UFRJ)

Selected mathematical activities

May 2012 : Rational Points workshop – Zurich
February 2012 : Workshop on algebraic surfaces – Hannover
March 2011 : Arithmetic, Geometry, Cryptography, and Coding Theory : AGCT-13– Luminy
January 2011 : Workshop on elliptic curves and modular forms (IMPA)– Rio de Janeiro
October 2010 : Arithmetic of Surfaces (Lorentz Center) – Leiden
September 2010 : Approximation diophantienne et transcendance – Luminy
July 2010 : Rational Points 3 (Schloss Thurnau) – Thurnau
March 2010 : Algebra and Number Theory at Hausdorff Institute – Bonn
February 2010 : Arithmetic Geometry – Essen
November 2009 : DIAMANT Symposium – Lunteren
November 2009 : Number Theory colloquium – Poznan
August 2009 : Latin American Algebra Colloquium – São Pedro
July 2009 : Journées Arithmétiques – Saint Etienne
May 2009 : Intercity Number Theory Seminar – Groningen
April 2009 : Diophantine Trimester – Hausdorff Institute – Bonn
November 2008 : Arithmetic of K3 surfaces (BIRS) – Banff
August 2008 : XX Brazilian School of Algebra – IMPA – Rio de Janeiro
October 2007 : Développements récents en approximation diophantienne – Luminy
May 2007 : London – Paris Number Theory Seminar – Imperial College – London
November 2006 and 2007 : London – Paris Number Theory Seminar (IHP) – Paris
May 2006 : Spring School : Abelian Varieties – Utrecht
September 2006 : Approximation diophantienne et nombres transcendants – Luminy
July 2005 and 2003 : Brazilian Colloquium of Mathematics (IMPA) – Rio de Janeiro

August 2002 : XVII Brazilian School of Algebra – Cabo Frio

Selected talks

1. Density of rational points on del Pezzo surfaces of low degree (February 2012 at Workshop on Algebraic surfaces – Hannover and March 2012 at Max Planck – Bonn)
2. Arithmetic of low degree del Pezzo surfaces (March 2011 at AGCT-13 Luminy and April 2011 at Number Theory seminar at CUNY– New York)
3. Comparing generic and special ranks on elliptic surfaces and unirationality of del Pezzo surfaces of degree two (December 2010 at Max Planck Institute- Bonn and November 2010 at Rice Univ., Brown Univ. and Courant Institute).
4. Zariski density of rational points on del Pezzo surfaces of small degree (November 2010 at Eindhoven, September 2010 at IMPA)
5. On the rank of the fibres of rational elliptic surfaces (2010 : Hausdorff Institute- Bonn, 2009 : Poznan, Latin American Algebra Colloquium, Groningen, Journées Arithmétiques – St. Etienne, Caen)
6. Comparing the rank of the generic and the special fibres on rational elliptic surfaces (2009 : Hausdorff Institute Bonn, Mainz, Copenhagen)
7. Rank of elliptic surfaces and base change (August 2008 : Arithmetic Day – Brazilian School of Algebra at IMPA)
8. Surfaces elliptiques, Réseaux de Mordell-Weil et mauvaises fibres (Student number theory seminar – Paris).
9. Augmentation du rang des surfaces elliptiques via des changements de base (September 2007 : Groupe d'études et Problèmes diophantiens – Paris)
10. Surfaces elliptiques et changements de base intéressants (March 2007 : Student number theory seminar – Paris)
11. Height theory : the conjectures by Lang and Lehmer (September 2004 – IMPA)

Teaching

- 2011 : Algebra 1 – (Leiden)
2010 : Commutative algebra – Master (Leiden)
2009 : Elliptic curves (exercise section) – MasterMath (Vrije Universiteit – Amsterdam)
2008 – 2009 : Mathématiques élémentaires (teaching assistant) – (Paris VII)
2007 : Formes quadratiques (teaching assistant) – (Paris VI)
2001 – 2002 : Algebra 1 and 2 (teaching assistant) – (UFRJ – Rio de Janeiro)

Supervision of students

- 2011 : Remy van Dobben de Bruyn – Bachelor (Leiden). Title : The modularity Theorem

and Fermat's Last Theorem.

2009 – 2010 : Valerio Pastro – Master (Leiden). Title of dissertation : Constructions of rational elliptic surfaces of rank four.

2010 : Anco Moritz – Bachelor (Leiden). Title : Heights and dynamical systems.

Organization of conferences

1. Arithmetic of surfaces – Lorentz Center – October 2010 (co-organized with Ronald van Luijk).

2. Workshop on arithmetic aspects of elliptic surfaces – Hausdorff Institute – March 2010 (co-organized with Matthias Schuett).

Languages

Fluent : Portuguese, French and English

Intermediate : German and Spanish

Beginner : Dutch