

CONTACT INFORMATION

Professional address: Department de Matemàtiques i Informàtica, Universitat de Barcelona,
Gran Via de les Corts Catalanes, 585; 08007 Barcelona, Spain.

EDUCATION

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- 09/2016 - (08/2019) **Ph.D. in Mathematics.**
Center: *Universitat de Barcelona.*
City, Country: Barcelona, Spain.
Advisor: Carlos D'Andrea.
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- 09/2015 - 08/2016 **Postgraduate Diploma Programme in Mathematics, top student prize.**
Center: *Abdus Salam International Centre for Theoretical Physics (ICTP).*
City, Country: Trieste, Italy.
Advisor: Lothar Göttsche.
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- 09/2009 - 07/2014 **Bachelor in Computer Science, summa cum laude.**
Center: *Universidad Central "Marta Abreu" de las Villas (UCLV).*
City, Country: Santa Clara, Cuba.
Advisor: Eberto Morgado.
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WORK EXPERIENCE

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- 09/2016 - Present Center: *Universitat de Barcelona.*
Position: Researcher & PhD candidate in the ARCADES network
(<http://arcades-network.eu>) under the Marie Skłodowska-Curie grant
agreement No 675789.
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- 09/2014 - 07/2015 Center: *Universidad Central "Marta Abreu" de las Villas.*
Position: Graduate Teaching Assistant in the Department of Mathematics.

PUBLICATIONS & PREPRINTS

1. "Bounding the degrees of a minimal μ -basis for a rational surface parametrization", to appear in J. Symbolic Comput., arXiv:1611.07506.
2. "A D -module approach on the equations of the Rees algebra", to appear in J. Commut. Algebra, arXiv:1706.06215.
3. "Regularity and Gröbner bases of the Rees algebra of edge ideals of bipartite graphs", Le Matematiche Vol 73 No 2 (2018), pp. 279–296, arXiv:1801.06731.
4. (with Sepehr Jafari, Beatrice Picone and Navid Nemati), "Regularity of bicyclic graphs and their powers", to appear in J. Algebra Appl., arXiv:1802.07202.
5. (with Laurent Busé and Carlos D'Andrea), "Degree and birationality of multi-graded rational maps", arXiv:1805.05180.
6. "Multiplicity of the saturated special fiber ring of height two perfect ideals", to appear in Proc. Amer. Math. Soc., arXiv:1807.03189.
7. (with Aron Simis), "Degree of rational maps via specialization", arXiv:1901.06599.

AWARDS & DISTINCTIONS

- Winner of the top student prize in Mathematics in ICTP, 2016.
- One of the 10 selected students in the Postgraduate Diploma Programme in Mathematics in ICTP, 2015.
- Best graduate student in 2014 in the Universidad Central "Marta Abreu" de Las Villas, 2014.

- SILVER MEDAL in the XV Iberoamerican Mathematical Olympiad, 2012.
- BRONZE MEDAL in the XIII Iberoamerican Mathematical Olympiad, 2010.
- GOLD MEDAL in the 11th Cuban Mathematical Olympiad, 2012.
- GOLD MEDAL in the 12th Cuban Mathematical Olympiad, 2013.
- BRONZE MEDAL in the Caribbean Regional Final of the Latin American programming ACM-ICPC, 2012.

RESEARCH VISITS

- INRIA Sophia Antipolis, 6 months, 10/2017 – 03/2018, host: Lurent Busé.
- Johannes Kepler University Linz, 2 months, 10/2018 – 11/2018, host: Josef Schicho.
- Politecnico di Torino, 1 week, 05/11/2018 – 09/11/2018, host: Aron Simis.
- International Centre for Theoretical Physics, 1 week, 11/02/2019 – 15/02/2019, host: Tarig Abdelgadir.
- Universidad de Sevilla, 1 week, 22/04/2019 - 26/04/2019, host: Francisco Jesús Castro Jiménez.

FELLOWSHIPS

- 09/2016 - 08/2019: Marie Skłodowska-Curie Fellowship, Universitat de Barcelona, Barcelona, Spain.
- 09/2015 - 08/2016: Awarded a fully funded scholarship to pursue the Postgraduate Diploma in Mathematics at ICTP, Trieste, Italy.

INVITED TALKS

- “*Rational maps and syzygies*”, Seminario de Álgebra de la Universidad de Sevilla, Sevilla, Spain, April 2019.
- “*Saturated special fiber ring and rational maps*”, Seminari de Geometria Algebraica de Barcelona, Barcelona, Spain, March 2019.
- “*Saturated special fiber ring and rational maps*”, Mathematics Seminar, International Centre for Theoretical Physics, Italy, February 2019.
- “*Rational maps and the saturated special fiber ring*”, Joint Meeting of the Czech, Slovenian, Austrian, Slovak and Catalan Mathematical Societies, Bratislava, Slovakia, September 2018.
- “*Degree and birationality of multi-graded rational maps*”, ARCADES Doctoral School II and ESR Days in Barcelona, Barcelona, Spain, September 2018.
- “*Regularity and Gröbner bases of the Rees algebra of edge ideals of bipartite graphs*”, XVI Encuentro de Álgebra Computacional y Aplicaciones (EACA), Zaragoza, Spain, July 2018.
- “*Regularity of bicyclic graphs and their powers*”, IPPI Workshop 2018 (post-Pragmatic 2017 event), Turin, Italy, March 2018.
- “*Regularity and Gröbner bases of the Rees algebra of edge ideals of bipartite graphs*”, Journées Nationales de Calcul Formel, CIRM, Luminy, France, January 2018.
- “*A D -module approach on the equations of the Rees algebra*”, Séminaire d’algèbre, topologie et géométrie, University of Nice, France, November 2017.
- “*Bounding the degrees of a minimal μ -basis for a rational surface parametrization*”, Society for Industrial and Applied Mathematics, Applied Algebraic Geometry Conference, Atlanta, United States, August 2017.
- “*Bounding the degrees of a minimal μ -basis for a rational surface parametrization*”, Effective Methods in Algebraic Geometry MEGA 2017, Nice, France, June 2017.
- “*Bounding the degrees of a minimal μ -basis for a rational surface parametrization*”, Seminari de Geometria Algebraica de Barcelona, Barcelona, Spain, March 2017.

CONFERENCES & WORKSHOPS

- Second ARCADES Software & Industrial Workshop, Cambridge, UK, January 2019
- Frobenius Action in Commutative Algebra: Recent Developments, Barcelona, Spain, January 2019.
- Macaulay2 Workshop, Leipzig, Germany, June 2018.
- Workshop on Commutative Algebra, Syzygies and Singularities, Nice, France, December 2017.
- First Software & Industrial Workshop, and Midterm Review ARCADES, Athens, Greece, November 2017.
- Research school in Algebraic Geometry and Commutative Algebra, *Pragmatic 2017*, Catania, Italy, June 2017.
- Learning Week I in *Algebraic Representations in Computer-Aided Design for complex Shapes (ARCADES)*, Nice, France, March 2017.
- 1st Doctoral School ARCADES, Oslo, Norway, December 2016.
- Workshop in Algebra, Algebraic Geometry, Algebraic Topology and Applications sponsored by *Centro de Investigaciones en Matemáticas (CIMAT, Guanajato, México)* in Ciego de Avila, Cuba, 2014.

LANGUAGES

Spanish: Mother tongue.

English: Fluent.

COMPUTER SKILLS

C/C++, JAVA, L^AT_EX, Linux, Wolfram Mathematica, MACAULAY2, SINGULAR.