

Eloísa Grifo | CV

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Employment

- **University of Michigan** August 2018 –
Postdoctoral Assistant Professor

Education

- **University of Virginia** Charlottesville, VA, USA
PhD, Advisor: Craig Huneke
Thesis: "Symbolic powers and the Containment Problem" August 2013 – May 2018
- **Instituto Superior Técnico** Lisbon, Portugal
Mestrado em Matemática (MS in Mathematics), Advisor: Maria Vaz Pinto 2011–2013
- **Instituto Superior Técnico** Lisbon, Portugal
Licenciatura em Matemática Aplicada e Computação (BS in Mathematics) 2008–2011

Publications

Published or accepted papers.....

- *A Zariski-Nagata Theorem for smooth \mathbb{Z} -algebras*, with Alessandro De Stefani and Jack Jeffries, to appear in J. Reine Angew. Math.
- *Symbolic powers of ideals defining F -pure and strongly F -regular rings*, with Craig Huneke, *International Mathematical Research Notices*, doi:rxn213, published online.
- *Symbolic powers of ideals*, with Hailong Dao, Alessandro De Stefani, Craig Huneke and Luis Núñez-Betancourt, *Advances in Singularities and Foliations: Geometry, Topology and Applications*, 387–432.
- *Lower bounds on projective levels of complexes*, with Hannah Altmann, Jonathan Montaño, William Sanders, and Thanh Vu, *Journal of Algebra*, 491C (2017), pp. 343–356.
- *On the growth of deviations*, with Adam Boocher, Alessio D'Alì, Jonathan Montaño, and Alessio Sammartano, *Proc. Amer. Math. Soc.*, 144 (2016), pp. 5049–5060.
- *Edge ideals and DG algebra resolutions*, with Adam Boocher, Alessio D'Alì, Jonathan Montaño, and Alessio Sammartano, *Le Matematiche* 70 (2015), no. 1, 215–237.
- *Local cohomology and Lyubeznik numbers of F -pure rings*, with Alessandro De Stefani and Luis Núñez-Betancourt, to appear in the *Journal of Algebra – Special Issue in honor of Craig Huneke*.

Submitted papers.....

- *Calculations involving symbolic powers*, with Ben Drabkin, Alexandra Seceleanu and Branden Stone, submitted.
- *The software package SpectralSequences*, with Adam Boocher and Nathan Grieve, submitted.

Other.....

- *Números, cirurgias e nós de gravata* (book), co-edited with João Pedro Boavida, Luís Cruz-Filipe, Rui Pedro Carpentier, Pedro S. Gonçalves, David Henriques, Ana Rita Pires, IST Press, December 2012.

- *Da plasticina às equações de 5º grau* in *Números, cirurgias e nós de gravata*, pp. 12-25, IST Press, December 2012.

Teaching

University of Virginia.....

- Calculus II (instructor): Fall 2016
- Applied Calculus II (instructor): Spring 2015, Fall 2015
- Applied Calculus II (assistant to the coordinator): Spring 2016
- Calculus III (TA): Fall 2014

Instituto Superior Técnico.....

- Análise Complexa e Equações Diferenciais (TA): Fall 2011, Spring 2012

Awards and Fellowships

Fellowships.....

- William and Carolyn Polk Jefferson Fellowship, 2013–2018, awarded by the Jefferson Scholars Foundation.
- *Novos Talentos em Matemática*, awarded by Fundação Calouste Gulbenkian, 2008/2009 and 2009/2010.

Awards and Grants.....

- AMS–Simons Travel Grant 2018.
- American Mathematical Society Joint Math Meetings 2018 Graduate Student Travel Grant.
- American Mathematical Society Sectional Meeting Graduate Student Travel Grant – SLC 2016.
- Research grant by *Fundação para a Ciência e Tecnologia*, October 2012 - April 2013, under the supervision of Maria Cristina Câmara.
- Honorable Mention in the International Mathematical Olympiads, 2008.
- Member of the portuguese team in the Ibero-american Mathematical Olympiads, 2007.
- Bronze (2003) and Gold (2008) medals in *Olimpíadas Portuguesas de Matemática* (Portuguese Mathematical Olympiads)
- Gold (2004, 2006), Silver (2007) and Bronze (2005) medals in *Olimpíada Paulista de Matemática* (Brazilian Mathematical Olympiads from the state of São Paulo)
- Bronze Medal in *Olimpíada de Mayo* 2003 (international mathematical olympiad)
- Winner of the 2007 edition of *Campeonato Nacional da Língua Portuguesa* (portuguese language competition).

Invited Talks

Lecture series.....

- *Symbolic Powers*, in *Topics in commutative algebra*, RTG Mini-course, University of Utah, May 2018.

Seminars and conference talks.....

- *Symbolic powers and the containment problem*, Univ. of Nottingham Algebra Seminar (07/05/2018)
- *Homological algebra vs symbolic powers*, Kumunujr (4/30/2018)
- *Applying homological algebra to a problem on symbolic powers*, AMS Sectional Boston (4/22/2018)
- *Symbolic powers and the Containment Problem*, AMS Sectional Meeting Portland (4/15/2018)
- *The Zariski-Nagata Theorem in mixed characteristic*, AMS Sectional Meeting Columbus (3/18/2018)

- *Symbolic Powers: the Containment Problem and Harbourne's Conjecture*, Joint Math Meetings 2018
- *Symbolic powers and differential operators*, George Mason University CAG Seminar (12/08/2017)
- *Symbolic powers and the Containment Problem*, University of Kansas Algebra Seminar (11/30/2017)
- *Symbolic powers and the Containment Problem*, University of South Carolina AG Seminar (11/13/2017)
- *Slicing a square pizza*, Math & CS Seminar (aimed at undergraduates), Adelphi University (11/10/2017)
- *Symbolic powers and differential operators*, New Mexico State University (10/23/2017)
- *A stable version of Harbourne's Conjecture*, AMS Sectional Meeting Orlando (9/23/2017)
- *A stable version of Harbourne's Conjecture*, AMS Sectional Meeting Denton (9/9/2017)
- *Symbolic powers of ideals defining F -pure rings*, AMS Sectional Meeting New York (5/6/2017)
- *Symbolic powers of ideals defining F -pure rings*, University of Utah CA Seminar (4/21/2017)
- *Symbolic powers in characteristic p* , University of Nebraska CA Seminar (3/29–30/2017)
- *Symbolic powers of ideals defining F -pure rings*, AMS Sectional Meeting Charleston (3/12/2017)
- *Symbolic powers of ideals defining F -pure rings*, Clemson University ADM Seminar (3/9/2017)
- *Symbolic powers of ideals defining F -pure rings*, University of Michigan CA Seminar (1/12/2017)
- *Symbolic powers of prime ideals*, AMS Sectional Meeting SLC (4/10/2016)

Conferences

Conferences and seminars organized.....

- Special session on *developments in commutative algebra*, AMS Sectional Meeting in Auburn, 2019, co-organized with Patricia Klein.
- *Forum for Interdisciplinary Dialogue 2015 – Ethics and Development*.
- *Seminário Diagonal*, Math students seminar, Instituto Superior Técnico, 2010–2013.

Selected conferences, summer schools and workshops attended.....

- MSRI Hot Topics Workshop on the homological conjectures – resolved!, March 2018.
- Macaulay 2 Workshop, Berkeley, CA, July 2017.
- CMO-BIRS Workshop 17w5027 on Symbolic Powers, Oaxaca, Mexico, May 2017.
- MSRI Summer School in Commutative Algebra, Okinawa, Japan, May 2017.
- Homological Conjectures Workshop at UIC, November 18 – 20, 2016, University of Illinois at Chicago.
- Macaulay 2 Workshop, Salt Lake City, Utah, May 2016.
- Mathematics Research Communities 2015 – Commutative Algebra, Salt Lake City, Utah.
- Local Cohomology Workshop at UIC, February 27 – March 1, 2015, University of Illinois at Chicago.
- Pragmatic 2014 – Local cohomology and syzygies of affine algebras, Research school in Algebraic Geometry and Commutative Algebra June 23– July 11, 2014, Catania, Italy.

Software

Macaulay2 packages.....

- **SpectralSequences**
developed with David Berlekamp, Adam Booher, Nathan Grieve, Gregory G. Smith, and Thanh Vu
- **SymbolicPowers**
with contributions from Ben Drabkin, Alexandra Seceleanu, and Branden Stone

Service and outreach

Service.....

- **AWM Student Chapter at UVa**
Chapter president and founding member 2016–2017

Math Outreach.....

- **UVa Math Ambassadors**
Classroom activities with 5th and 6th grade students 2014–present