Eloísa Grifo | CV

eloisa.grifo@ucr.edu • https://eloisagrifo.github.io

Appointments

- **University of California – Riverside** — **Riverside, California**
  Assistant Professor — *from July 2020*
- **University of California – Riverside** — **Riverside, California**
  Visiting Assistant Researcher — *July 2019 – June 2020*
- **University of Utah** — **Salt Lake City, Utah**
  Visiting Postdoctoral Scholar — *July 2019 – June 2020*
- **University of Michigan** — **Ann Arbor, Michigan**
  Postdoctoral Assistant Professor — *August 2018 – May 2019*

Education

- **University of Virginia** — **Charlottesville, VA, USA**
  PhD, Advisor: Craig Huneke — *August 2013 – May 2018*
  Thesis: *Symbolic powers and the Containment Problem*
- **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, *Int. Math. Res. Not. (IMRN)* 2019, no. 10, 2999–3014.
- *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.
- *Calculations involving symbolic powers*, with Ben Drabkin, Alexandra Seceleanu and Branden Stone, to appear in the *Journal of Software for Algebra and Geometry*.

Preprints

- *A stable version of Harbourne's Conjecture and the containment problem for space monomial curves*, arXiv:1809.06955, submitted.
- *Expected resurgences and symbolic powers of ideals*, arXiv:/1903.12122, with Craig Huneke and Vivek Mukundan, submitted.
- *Symbolic power containments in singular rings in positive characteristics*, arXiv:/1911.06307, with Linquan Ma and Karl Schwede.
- *The software package SpectralSequences*, with Adam Boocher and Nathan Grieve, arXiv:1610.05338, 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* 5°*grau* in *Números, cirurgias e nós de gravata*, pp. 12-25, IST Press, December 2012.

Awards and Fellowships

Fellowships

- William and Carolyn Polk Jefferson Fellowship, 2013–2018, 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), Category B.

Teaching

University of Michigan

- Introduction to Modern Algebra (Math 412): Winter 2019
- Calculus I (Math 115): Fall 2018

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

Invited Talks

Lecture series

- *Title TBA*, BRIDGES, University of Utah, May 2020.
- *Potencias simbólicas*, *Escula de Outoño en Álgebra Conmutativa*, CIMAT, Mexico, November 2019.
- *Symbolic Powers*, in *Topics in commutative algebra*, RTG Mini-course, University of Utah, May 2018.

Seminars and conference talks

- *A stable version of Harbourne's Conjecture*, UIC Commutative Algebra seminar (11/2019).
- *Symbolic powers / Two versions of Harbourne's Conjecture*, UNL CA seminar (09/2019).
- *Symbolic powers and the (stable) containment problem*, University of Wisconsin Algebra and AG Seminar
- *A Fedder-like criterion over Gorenstein rings*, Morgantown Algebra Days (04/2019)
- *Symbolic powers*, UC Riverside Colloquium (02/21/2019)
- *A Fedder-like criterion over Gorenstein rings*, MFO Workshop on Singularities and Homological Aspects of Commutative Algebra (10/02/2019)
- *Symbolic powers*, Oklahoma State University Colloquium (02/04/2019)
- *A Fedder-like criterion over Gorenstein rings and symbolic powers*, Frobenius Actions in Commutative Algebra: Recent Developments, Barcelona, Spain (01/2019)
- *A stable version of Harbourne's Conjecture*, CMS Winter Meeting, Vancouver, Canada (12/09/2019)
- *Symbolic powers and free resolutions*, AMS Sectional Meeting Ann Arbor (10/21/2018)
- *Symbolic powers of ideals defining F-pure rings*, AMS Sectional Meeting Ann Arbor (10/20/2018)
- *A stable version of Harbourne's Conjecture*, MFO Mini-workshop on Asymptotic Invariants of Homogeneous Ideals (10/03/2018)
- *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)
- *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)

Talks aimed at undergraduate students

- *Symbolic powers and a story of algebra vs geometry*, Undergraduate Math Symposium, UIC (02/11/2019)
- *Slicing a square pizza*, University of Michigan Math Club (March 2019)
- *Slicing a square pizza*, UVa Math Club (2018)
- *Slicing a square pizza*, Math & CS Seminar, Adelphi University (11/10/2017)

Conferences

Conferences and seminars organized

- Special session on *commutative algebra*, AMS Sectional Meeting in Charlottesville, 2020, co-organized with Sean Sather-Wagstaff.
- Special session on *developments in commutative algebra*, AMS Sectional Meeting in Auburn, 2019, co-organized with Patricia Klein.
- Commutative Algebra Seminar at the University of Michigan, co-organized with Mel Hochster.
- *Forum for Interdisciplinary Dialogue 2015 – Ethics and Development*, co-organized with the Jefferson Scholars Foundation.
- *Seminário Diagonal*, co-organizer, Math students seminar, Instituto Superior Técnico, 2010–2013.

Selected conferences, summer schools and workshops attended

- CMO-BIRS workshop *Advances in Mixed Characteristic Commutative Algebra and Geometric Connections*
- BIRS workshop *Women in Commutative Algebra*, October 2019
- Mathematisches Forschungsinstitut Oberwolfach Workshop on Singularities and homological aspects of commutative algebra, February 2019.
- Mathematisches Forschungsinstitut Oberwolfach Mini-workshop on Asymptotic Invariants of Homogeneous Ideals, October 2018.
- 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.
- Macaulay 2 Workshop, Salt Lake City, Utah, May 2016.
- Mathematics Research Communities 2015 – Commutative Algebra. Salt Lake City, Utah.
- Pragmatic – Local cohomology and syzygies of affine algebras. June 23–July 11, 2014, Catania, Italy.

Software

Macaulay2 packages

- **SpectralSequences**
  developed with David Berlekamp, Adam Boocher, 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

- **Wolverine Pathways**
  Fall 2018
- **UVa Math Ambassadors**
  Classroom activities with 5th and 6th grade students *2014–2018*