

Hang (Amy) Huang

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Education

2009-2013 B.S. in Mathematics and Information Engineering, The Chinese University of Hong Kong
2013-2019 PhD in Mathematics, University of Wisconsin Madison
Advisor: Steven Sam

Employment

2019-present Visiting Assistant Professor in Mathematics, Texas A&M University

Publications and Preprints

Equations of Kalman Varieties, preprint at [arXiv:1707.08699](https://arxiv.org/abs/1707.08699). To appear in Proceedings of the AMS.
Computing Schur complexes., with Michael K. Brown, Robert P. Laudone, Michael Perlman, Claudiu Raicu, Steven V Sam, João Pedro Santo, To appear in the Journal of Software for Algebra and Geometry.

Minimal Set of Generators of Ideals Defining Nilpotent Orbit Closures, preprint at [arXiv: 2008.03166](https://arxiv.org/abs/2008.03166). Submitted.

Syzygies of Determinantal Thickenings, preprint at [arXiv:2008.02690](https://arxiv.org/abs/2008.02690). Submitted.

Relations between the 2x2 minors of a generic matrix, with Michael Perlman, Claudia Polini, Claudiu Raicu, Alessio Sammartano, preprint at [arXiv:1909.11705](https://arxiv.org/abs/1909.11705). To appear in Advances in Mathematics.

Vanishing Hessian, wild forms and their border VSP, with Mateusz Michałek, Emanuele Ventura, preprint at [arXiv:1912.13174](https://arxiv.org/abs/1912.13174). To appear in Mathematische Annalen.

Bad and good news for Strassen's laser method: Border rank of the 3x3 permanent and strict submultiplicativity, with Austin Conner, J. M. Landsberg, preprint at [arXiv:2009.11391](https://arxiv.org/abs/2009.11391). Submitted.

The InvariantRing package for Macaulay2, with Luigi Ferraro, Federico Galetto, Francesca Gandini, Matthew Mastroeni, Xianglong Ni. preprint at [arXiv:2010.15331](https://arxiv.org/abs/2010.15331). Submitted.

Book Chapter

K. Timchenko and H. Huang, Lightning Introduction to Perverse Sheaves, In Ben Elias, Shotaro Makisumi, Ulrich Thiel, Geordie Williamson, Introduction to Soergel bimodules, (p315-331), RSME Springer Series, vol. 5, (2020).

Conference Presentations & Seminar Talks

August 2021	"Border Apolarity and Border Rank of the 3×3 Permanent", talk in SIAM Conference on Applied Algebraic Geometry.
May 2021	"Border Apolarity and Border Rank of the 3×3 Permanent", talk in spring 2021 virtual meeting of the AMS western section.
Apr 2021	"Vanishing Hessian and Wild Polynomials", talk in AMS spring central sectional meeting.
Mar 2021	"Syzygies of Determinantal Thickenings and $\mathfrak{gl}(m n)$ representations", talk in spring Southeastern AMS sectional meeting.
Aug 2020	"Syzygies of Determinantal Thickenings and $\mathfrak{gl}(m n)$ representations", talk in ICERM Free Resolutions and Representation Theory Workshop.
Jun 2020	"Vanishing Hessian and Wild Polynomials", talk in Nonlinear Algebra Seminar Online (NASO) at MIP MiS.
May 2020	"Vanishing Hessian and Wild Polynomials", talk in Webinar. Recent advances in border rank and secant varieties of homogeneous varieties.
Oct 2019	"Syzygies of Determinantal Thickenings and $\mathfrak{gl}(m n)$ representations", talk in Texas A&M University Algebra and Combinatorics seminar.
Apr 2019	"Syzygies of Determinantal Thickenings", talk in University of Notre Dame Algebraic Geometry/Commutative Algebra seminar.
Feb 2019	"Syzygies of Determinantal Thickenings", talk in University of San Diego Combinatorics seminar.
Jan 2019	"Equations of Kalman Varieties", talk in Texas A&M Geometry seminar.
Oct 2018	"Equations of Kalman Varieties", talk in AMS fall central sectional meeting, University of Michigan.
Dec 2017	"Equations of Kalman Varieties", talk in the UIUC algebra, geometry and combinatorics seminar.
Oct 2017	"Equations of Kalman Varieties", talk in DePaul University algebra and combinatorics seminar.
Oct 2017	"Equations of Kalman Varieties", poster at KUMUNU 2017 in University of Kansas.
Oct 2017	"Equations of Kalman Varieties", talk in University of Connecticut algebra seminar.
March 2017	"Equations of Kalman Varieties", talk in UW-Madison algebraic geometry seminar.

Grants, honors & awards

2018-2019	Elizabeth Hirschfelder Prize
2012	HKSAR Government Scholarship
2012	Undergraduate Mathematics Scholarship
2009-2012	Dean's List
2007	Silver Prize in Asian Pacific Astronomy Olympic(APAO)

Teaching

Spring 2021, Elementary matrix and linear algebra, Instructor, Texas A&M University
Fall 2020, Engineering Math III, Instructor, Texas A&M University
Spring 2020, Elementary matrix and linear algebra, Instructor, Texas A&M University
Spring 2018, Elementary Martrix and Linear Algebra, Teaching Assistant, UW-Madison
Spring 2017, Discrete Math, Teaching Assistant, UW-Madison
Fall 2016, Calculus, Teaching Assistant, UW-Madison
Summer 2016, Analysis I, Grader, UW-Madison
Spring 2016, Elementary Martrix and Linear Algebra, Teaching Assistant, UW-Madison
Fall 2015, Calculus and Introduction to Differential Equations, Teaching Assistant, UW-Madison
Spring 2015, Calculus II, Teaching Assistant, UW-Madison
Fall 2014, Algebra, Teaching Assistant, UW-Madison

Spring 2014, Calculus I, Teaching Assistant, UW-Madison
Fall 2013, Calculus II, Teaching Assistant, UW-Madison