Katrina Honigs

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Positions

Summer 2021 -	Assistant Professor	Simon Fraser Univ.
Fall 2019 - Spring 2021	Paul Olum Postdoctoral Scholar	University of Oregon
Fall 2016 - Spring 2019	NSF Postdoctoral Fellow	University of Utah
Fall 2015 - Spring 2016	RTG Postdoctoral Fellow	University of Utah

Education

PhD	2015	UC Berkeley	Advisor: Martin Olsson
MASt	2009	University of Cambridge	Part III of the Mathematics Tripos
BA	2008	Grinnell College	Majors: Mathematics and Physics

Publications

Refereed Articles

1. (with A. Bhaduri, Y. Davidov, E. Faber, P. McDonald, C. Eric Overton-Walker and D. Spence) An explicit derived McKay correspondence for some complex reflection groups of rank two. `arxiv:2412.17937`. To appear in *Advances in Mathematics*.

2. (with P. Sarmah) Involutions of curves in abelian surfaces and their Jacobians. To appear in *Acta Arithmetica*. `arxiv:2504.06502`.

3. (with S. Frei and J. Voight) On abelian varieties whose torsion is not self-dual. To appear in *Proceedings of the AMS*. `arxiv:2309.00531`.

4. (with S. Frei and J. Voight) A framework for Tate modules of abelian varieties under isogeny. To appear in *Essential Number Theory*. `arxiv:2503.12756`.

5. (with G. McDonald) Theta characteristics and the fixed locus of $[-1]$ on some varieties of Kummer type. To appear in *Kyoto J. Math.* `arxiv:2307.13129`.

6. (with S. Frei) Groups of symplectic involutions on symplectic varieties of Kummer type and their fixed loci. *Forum Math. Sigma* 11(e40), 2023. `arxiv:2207.14035`.

7. (with S. Hashimoto, A. Lamarche and I. Vogt) A transcendental topologically-nontrivial Brauer-Manin obstruction to weak approximation on a Calabi-Yau threefold. *Res. Number Theory* 8(1), 2022. `arxiv:2009.05862`.

8. (with N. Addington, B. Antieau and S. Frei) Rational points and derived equivalence. *Compos. Math.* 157(5): 1036–1050, 2021. `arxiv:1906.02261`.

9. (with M. Lieblich and S. Tirabassi) Fourier–Mukai partners of Enriques and bielliptic surfaces in positive characteristic. *Math. Res. Lett.* 28(1): 65–91, 2021. `arxiv:1708.03409`.

10. (with L. Lombardi and S. Tirabassi) Derived equivalences of canonical covers of hyperelliptic and Enriques surfaces in positive characteristic. *Math. Z.* 295: 727–749, 2020. `arxiv:1606.02094`.

11. Derived equivalence, Albanese varieties, and the zeta functions of 3-dimensional varieties. *Proc. Amer. Math. Soc.* 146: 1005–1013, 2018. (Appendix with J. Achter, S. Casalaina-Martin and C. Vial) `arxiv:1604.00042`.

12. Derived equivalent surfaces and abelian varieties, and their zeta functions. *Proc. Amer. Math. Soc.* 143: 4161–4166, 2015. `arxiv:1310.4721`.

13. Missing edge coverings of bipartite graphs and the geometry of the Hausdorff metric. *J. Geom.* 104: 107–125, 2013.

Other Publications

1. *Meeting Grothendieck, 2012*, *Notices Amer. Math. Soc.* **63**:3 (2016)

Invited Lectures

Conferences

Foundational Methods in Computer Science Workshop, U. Calgary	July 2024
Joint Mathematics Meetings, San Francisco, CA	Jan. 2024
CMS Winter Meeting, Montreal	Dec. 2023
Canadian Western Algebraic Geometry Symposium, SFU	Mar. 2023
PRIMA Congress, "Arithmetic geometry: theory and computation", Vancouver, BC	Dec. 2022
Tensor Categories in Sydney, Univ. of Sydney	Nov. 28 - Dec. 2, 2022
FRG workshop: Derived Categories and Moduli Spaces, Cornell University	April 2022
BIRS workshop: Derived, Birational, and Categorical Algebraic Geometry	Nov. 2021
Canadian Mathematical Society Winter Meeting, "Derived Categories and (non)commutative algebraic geometry"	Dec. 2020
Joint Mathematics Meetings, Denver, CO	Jan. 2020
AMS Western Sectional Meeting, UC Riverside	Nov. 2019
AMS Western Sectional Meeting, San Francisco State University	Oct. 2018
AMS Western Sectional Meeting, Portland State University	April 2018
Stanford Algebraic Geometry Seminar	Feb. 2018
Workshop on Topics in Algebraic Geometry, UNC - Chapel Hill	Nov. 2017

Western Algebraic Geometry Symposium, UCLA	Oct. 2017
AMS Western Sectional Meeting, University of Utah	April 2016
Warwick EPSRC Symposium: Fourier–Mukai 34 years on, University of Warwick,	June 2015
AMS Central Sectional Meeting, Michigan State University	Mar. 2015
AMS Southeastern Sectional Meeting, UNC at Greensboro	Nov. 2014
AMS Western Sectional Meeting, San Francisco State University	Oct. 2014

Seminars

SFU NTAG Seminar	Feb. 2025
University of Toronto Algebraic Geometry Seminar	May 2024
UBC Algebraic Geometry Seminar	Oct. 2022
SFU NTAG Seminar	Feb. 2022
Michigan State University Algebra Seminar	Nov. 2021
UW-Madison Algebra and Algebraic Geometry Seminar	Nov. 2020
Rutgers Algebra Seminar	Oct. 2020
SFU NTAG Seminar	May 2020
University of Oregon Algebra Seminar	Nov. 2019
Rice University Algebraic Geometry and Number Theory Seminar	Sept. 2019
Colorado State University FRAGMENT Seminar	Oct. 2018
UIC Algebraic K-Theory Seminar	Sept. 2018
University of Oregon Algebra Seminar	Feb. 2018
University of Washington Algebraic Geometry Seminar	May 2017
Caltech Algebraic Geometry Seminar	April 2017
San Francisco State University Geometry Seminar	Oct. 2016
University of Cambridge Algebraic Geometry Seminar	Oct. 2016
University of Bergen Algebra and Geometry Seminar	Sept. 2016
University of Utah Algebraic Geometry Seminar	Jan. 2015
University of Utah Algebraic Geometry Seminar	Oct. 2014
University of Michigan Algebraic Geometry Seminar	April 2014
Rice University Algebraic Geometry and Number Theory Seminar	Mar. 2014
Berkeley Number Theory Seminar	Mar. 2014
Stanford Student Algebraic Geometry Seminar	Feb. 2014

Lecture Series

Geometry and Arithmetic of Surfaces Workshop, University of Wisconsin-Madison	Feb. 2019

Outreach lectures

SFU International Women in Math Day Single Slide Showcase: “Maria Agnesi”	May 2024
Meet an SFU Scientist: “Primitive Pythagorean triples”	April 2022
Grinnell College, Alumni Scholar Program: “Bézout’s Theorem”	Feb. 2019
University of Utah Graduate Colloquium: “Zeta functions and the Weil conjectures”	Feb. 2018

Teaching

Instructor, SFU:

Math 157: Calculus I for the Social Sciences	Spring 2024, Fall 2024
Math 441/741: Commutative Algebra and Algebraic Geometry	Spring 2022, Spring 2024
Math 817: Groups and Rings	Fall 2023
Math 818: Algebra and Geometry	Fall 2022, Fall 2024
Math 240: Linear Algebra	Fall 2021, Spring 2023, Spring 2025

Instructor, University of Oregon:

Math 307: Introduction to Proof	Winter 2021
Math 341: Linear Algebra	Fall 2019 (two sections), Fall 2020 (two sections)
Math 342: Linear Algebra, II	Winter 2020 (two sections), Winter 2021

Instructor, University of Utah:

Math 1310: Calculus I	Fall 2018
Math 6080: Topics in Contemporary Math	Summer 2018
Course is part of MSMT program, a masters program for math teachers. Taught and developed course curriculum.	
Math 5320: Introduction to Modern Algebra II	Spring 2018
Math 2250: Linear Algebra and Differential Equations	Fall 2015, Spring 2016

Teaching Assistant, IAS Program for Women and Mathematics:

"Algebraic Curves over Finite Fields" lectured by Wei Ho	May 2015

Graduate Student Instructor, UC Berkeley:

Math 54: Linear Algebra and Differential Equations	Fall 2014, Spring 2014, Spring 2012
Math 1B: Calculus II	Spring 2011

Professional Service

Organizing for Conferences and Seminars

SFU NTAG Seminar	Fall 2025 - Spring 2026
	Fall 2022 - Spring 2024
CMS Winter Meeting Session, "Algebraic Geometry", Co-Organizer	Dec. 2024
American Mathematical Society Mathematics Research Community:	
Derived Categories, Arithmetic and Geometry	June 5-9, 2023
BIRS Workshop:	
Derived Categories, Arithmetic, and Reconstruction in Algebraic Geometry	July 2022
PRIMA Summer School:	
Rational curves and moduli spaces in arithmetic geometry, online	Aug. 2021
Workshop, CIRM Trento: "The Arithmetic of Derived Categories"	July 2017
University of Utah Algebraic Geometry Seminar	Fall 2016 - Spring 2018
Berkeley Student Algebraic Geometry Seminar	Fall 2013 - Spring 2014