

Geoffrey Smith

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Education

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| Harvard University PhD in mathematics, advisor Joe Harris | 2015-2020 |
| Yale University BS and MS in mathematics | 2011 - 2015 |

Employment

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| University of Illinois at Chicago Research Assistant Professor | 2020-present |
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Publications

1. *Lines highly tangent to a hypersurface* (with Anand Patel, Eric Riedl, and Dennis Tseng), arXiv preprint 2208.07401, submitted.
2. *Effective cycles on universal hypersurfaces*, arXiv preprint 2206.06459, submitted.
3. *Kernel and cokernel bundles on projective space* (with Izzet Coskun and Jack Huizenga), arXiv preprint 2204.10247, submitted.
4. *Rational linear subspaces of hypersurfaces over finite fields* (with María Inés de Frutos Fernandez, Sumita Garai, Kelly Isham, and Takumi Murayama), arXiv preprint 2111.10976, submitted.
5. *Exceptional loci in Lefschetz theory* (with Sam Raskin), Bull. London Math. Soc. (2022).
6. *Very free rational curves in Fano varieties* (with Izzet Coskun), J. Algebra **661** (2022), 246–264.
7. *Vector bundles on trees of smooth rational curves*, Comm. Algebra (2022).
8. *Covering gonality of complete intersections in positive characteristic*, Algebra Number Theory **16.3** (2022), 731–745.
9. *Low degree points on curves* (with Isabel Vogt), Int. Math. Res. Not. **2022.1** (2022), 422–445.
10. *Constants in Titchmarsh divisor problems for elliptic curves* (with Renee Bell, Clifford Blakestad, Alina Cojocaru, Alexander Cowan, Nathan Jones, Vlad Matei, and Isabel Vogt), Res. Number Theory **6, 1** (2019).
11. *The partition function modulo 3 in arithmetic progressions* (with Lynnelle Ye). Ramanujan J. **39** (2016), 603–608.
12. *Bounded gaps between primes in special sequences* (with Lynn Chua and Soohyun Park). Proc. Amer. Math. Soc. **143** (2015), 4597–4611.

13. *Brill-Noether theory of curves on toric surfaces*. J. Pure Appl. Algebra **219.7** (2015), 2629–2636.
14. *Congruence properties of Taylor coefficients of modular forms* (with Hannah Larson). Int. J. Number Theory **10** (2014), 1501–1518.

Teaching

| | |
|---|-----------------|
| Instructor , Math 552, algebraic geometry, UIC | 2022 |
| Instructor , Math 330, abstract algebra, UIC | 2021, 2022 |
| Instructor , Math 210, multivariable calculus, UIC | 2020, 2021, 022 |
| Teaching Fellow , Math 21a, multivariable calculus, Harvard | 2018, 2020 |
| Teaching Fellow , Math 1b, single-variable calculus, Harvard | Fall 2016 |
| Instructor , tutorial on coding theory, Harvard | Summer 2016 |
| Peer Tutor , Vector Analysis, Yale | 2013—2014 |
| Grader , various courses, Yale | 2012, 2015 |

Invited Talks

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| Brown , seminar: <i>Effective cones of universal hypersurfaces</i> | 2022 |
| UConn , seminar: <i>Effective cones of universal hypersurfaces</i> | 2022 |
| UIC , seminar: <i>Effective cones of universal hypersurfaces</i> | 2022 |
| Notre Dame , seminar: <i>Normal bundles of rational curves in Fano varieties</i> | 2021 |
| Northern Illinois University , colloquium: <i>Hyperplane slicing</i> | 2021 |
| Penn State , seminar: <i>Normal bundles of rational curves in Fano varieties</i> | 2021 |
| UIC , seminar: <i>Normal bundles of rational curves in Fano varieties</i> | 2021 |
| Stanford , seminar: <i>Very free curves in Fano varieties</i> | 2021 |
| UGA , seminar: <i>Covering gonality of hypersurfaces in positive characteristic</i> | 2020 |
| UT Austin , seminar: <i>Gysin homomorphisms for singular varieties</i> | 2020 |
| Stanford , seminar: <i>Covering gonality of hypersurfaces in positive characteristic</i> | 2020 |
| UIC , seminar: <i>Covering gonality of hypersurfaces in positive characteristic</i> | 2019 |
| Harvard , seminar: <i>Covering gonality of hypersurfaces in positive characteristic</i> | 2019 |
| Stony Brook , seminar: <i>Low degree points on curves</i> | 2019 |
| Northeastern , seminar: <i>Low degree points on curves</i> | 2019 |
| Brown , seminar <i>Low degree points on curves</i> | 2019 |
| Stanford , student seminar: <i>Vector bundles on \mathbb{P}^1 bundles</i> | 2019 |
| Yale , seminar: <i>Bounded gaps between primes in special sequences</i> | 2014 |

Honors and awards

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| AMS-Simons travel grant, \$5000 | 2022 |
| Yale Deforest prize (top senior in mathematics) | 2015 |
| Phi Beta Kappa | 2014 |
| Goldwater Scholarship | 2014 |
| Yale Anthony D. Stanley Memorial Prize for excellence in mathematics | 2014 |
| Yale John Alan Lewis Summer Research Fellowship | 2014 |

Service

Referee: Comm. Algebra, J. Pure Appl. Algebra, Sel. Math., Int. Math. Res. Not., Math. Z.
Reviewer: Math Reviews 2020—
Organizer: FRG Lectures 2021
Organizer: UIC algebraic geometry seminar 2020—
Tutor for Harvard graduate qualifying exams 2018, 2019
Organizer: nine semesters of graduate learning seminars 2016—2019