Curriculum Vitae
Jason Michael Starr

Business Address:
Stony Brook University
Dept. of Math., 3-119 Math Tower
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Degrees

B.A. Univ. of Calif. Berkeley, May 1996
Ph. D. Harvard University, June 2000

Positions

Assistant Professor, Stony Brook Univ., September 2006 – present
Assistant Professor, M. I. T., July 2003 – June 2007
C. L. E. Moore Instructor, M. I. T., July 2000 – June 2003
MSRI Postdoctoral Fellow, January 2002 – May 2002

Honors

Chancellor's Scholarship, September 1992 – May 1996
W. L. Putnam Competition, Honorable Mention, 1994 Competition
Graduated With Highest Honors, May 1996
N. S. F. Graduate Research Fellowship, Sept. 1996 – Aug. 1999
Alfred P. Sloan Thesis Fellowship, Sept. 1999 – June 2000
N. S. F. Postdoctoral Fellowship – awarded and I declined
Alfred P. Sloan Research Fellowship, Sept. 2005 – Sept. 2009

Grants

NSF Grant DMS-0353692, "Birational geometry and spaces of rational curves"
NSF Grant DMS-0201423, "Birational geometry and rational connectedness"
NSF Grant DMS-0553921, "Collaborative Research: FRG: Geometry of moduli spaces of rational curves with applications to Diophantine problems over function fields"
NSF Grant DMS-0758521, "Higher rational connectedness and applications"
NSF Grant DMS–0846972, "CAREER: Higher rational connectedness, higher Fano manifolds, and applications"

Publications

1. J. Starr, **Rational curves in hypersurfaces in projective N-space**, Ph.D. thesis, Harvard University, June 2000.
2. A. J. de Jong and J. Starr, **Every rationally connected variety over the function field of a curve has a rational point**, *Amer. J. of Math.*, **125** (2003), 567–580.
3. T. Graber, J. Harris and J. Starr, **Familes of rationally connected varieties**, *J. Amer. Math. Soc.*, textbf16 (2003), 57–67,
    available at `http://arxiv.org/abs/math/0109220`

4. A. J. de Jong and J. Starr, **Cubic fourfolds and spaces of rational curves**, *Illinois J. Math.*, **48** (2004), 415–450,
available at `http://www-math.sunysb.edu/~jstarr/papers`.

5. T. Graber, J. Harris, B. Mazur and J. Starr, **Arithmetic questions related to rationally connected varieties**, in *The legacy of Niels Henrik Abel*, 531–542, Springer, Berlin, 2004.

6. T. Graber, J. Harris, B. Mazur and J. Starr, **Jumps in Mordell-Weil rank and arithmetic surjectivity**, in *Arithmetic of higher-dimensional algebraic varieties (Palo Alto, CA, 2002)*, 141–147, Birkhäuser, Boston, 2004.

7. J. Harris, M. Roth, and J. Starr, **Rational curves on hypersurfaces of low degree**, *J. Reine Angew. Math.*, **571** (2004), 73–106,
available at `http://arxiv.org/abs/math/0203088`

8. M. Olsson and J. Starr, **Quot functors for Deligne-Mumford stacks. Special issue in honor of Steven L. Kleiman**, *Comm. Algebra*, **31** (2004), 4069–4096,
available at `http://arxiv.org/abs/math/0204307`

9. T. Graber, J. Harris, B. Mazur, and J. Starr, **Rational connectivity and sections of families over curves**, *Ann. Sci. Ecole Norm. Sup.(4)*, **38** (2005), 671–692,
available at `http://arxiv.org/abs/math/0210225`

10. J. Harris and J. Starr, **Rational curves on hypersurfaces of low degree, II**, *Compos. Math.*, **141** (2005), 35–92,
available at `http://arxiv.org/abs/math/0207257`

11. J. Harris, M. Roth, and J. Starr, **Curves of small degree on cubic threefolds**, *Rocky Mountain J. Math.*, **35** (2005), 761–817,
available at `http://arxiv.org/abs/math/0202067`

12. I. Coskun and J. Starr, **Divisors on the space of maps to Grassmannians**, *Int. Math. Res. Not.* 2006, Art. ID 35273, 25 pp.
available at `http://www-math.sunysb.edu/~jstarr/papers`.

13. T. D. Browning and D. R. Heath-Brown, with an appendix by J. Starr, **The density of rational points on non-singular hypersurfaces. II.**, *Proc. London Math. Soc.*, **93** (2006), 273–303.

14. A. J. de Jong and J. Starr, **Higher Fano manifolds and rational surfaces**, *Duke Math. J.*, **139** (2007), 173–183.

15. R. Beheshti and J. Starr, **Rational surfaces in index-one Fano hypersurfaces**, *J. Algebraic Geom.* **17** (2008), 255–274.

16. I. Coskun, J. Harris and J. Starr, **The effective cone of the Kontsevich moduli space**, *Canad. Math. Bull.* **51** (2008), 519–534.

17. I. Coskun, J. Harris and J. Starr, **The ample cone of the Kontsevich moduli space**, accepted for publication in *Canad. J. Math.*

18. J. Starr, **Arithmetic over function fields**, accepted for publication in the volume for the Clay Mathematics Institute 2006 Summer School on Arithmetic Geometry,
available at `http://www.math.sunysb.edu/~jstarr/papers/index.html`

Submitted

19. A. J. de Jong and J. Starr, **Almost proper GIT-stacks and discriminant avoidance**, submitted to *Doc. Math.*

20. J. Starr, **A pencil of Enriques surfaces of index one with no section**, submitted to *J. of Algebra and Number Theory*,
available at `http://arxiv.org/abs/math/0109220`

21. J. Starr, **Degenerations of rationally connected varieties and PAC fields**, submitted to *Proc. of the Amer. Math. Soc.*,
available at `http://arxiv.org/abs/math/0602649`

22. A. J. de Jong, X. He and J. Starr, **Families of rationally simply connected varieties over surfaces and torsors for semisimple groups**, submitted to *Publ. Math. Inst. Hautes Études Sci.*,
available at `http://arxiv.org/abs/0809.5224`

Preprint

23. J. Starr, **The Kodaira dimension of spaces of rational curves on low degree hypersurfaces**,
available at `http://arxiv.org/abs/math/0305432`

24. J. Starr, **The maximal free rational quotient**,
available at `http://arxiv.org/abs/math/0602640`

25. J. Starr, **Hypersurfaces of low degree are rationally simply-connected**,
available at `http://arxiv.org/abs/math/0602641`

26. A. J. de Jong and J. Starr, **Divisor classes and the virtual canonical bundle for genus 0 maps**,
available at `http://arxiv.org/abs/math/0602642`

27. A. J. de Jong and J. Starr, **A note on Fano manifolds whose second Chern character is positive**,
available at `http://arxiv.org/abs/math/0602644`

28. A. J. de Jong and J. Starr, **Very twisting families of pointed lines on Grassmannians**,
available at `http://arxiv.org/abs/math/0602645`

29. J. Starr, **Artin's axioms, composition and moduli spaces**,
available at `http://arxiv.org/abs/math/0602646`

30. J. Starr, **Fano varieties and linear sections of hypersurfaces**,
available at `http://arxiv.org/abs/math/0607133`

31. A. J. de Jong and J. Starr, **Low degree complete intersections are rationally simply connected**,
available at `http://www.math.sunysb.edu/~jstarr/papers/index.html`

32. T. Graber and J. Starr, **Restriction of sections for families of Abelian varieties**,
available at `http://www.math.sunysb.edu/~jstarr/papers/index.html`

33. X. He and J. Starr, **Semi-stable locus of a group compactification**

Professional activities

Served as director of the Secondary Teacher Option Master's Degree program of the Stony Brook University mathematics department, March 2008 – December 2008.

Served as departmental senator on University Senate and College of Arts and Sciences Senate, September 2007 – December 2008.

Referee Adv. Math., Compos. Math., Duke Math. J., Indag. Math. (N.S.), Int. Math. Res. Not. IMRN, Invent. Math., J. Algebraic Geom., J. Number Theory, Manuscripta Math., Math. Ann., Math. Z., Michigan Math. J., Pacific J. Math., Proc. Amer. Math. Soc., Trans. Amer. Math. Soc.

Co-organizer of NSF Focused Research Group Workshop, "Algebraic and Symplectic Geometry of Uniruled and Rationally Connected Manifolds", Spring 2008.

Co-organizer of Clay Mathematics Workshop, "Rational Curves and Diophantine Problems over Function Fields", Fall 2007.

Co-organized "Harvard-MIT Algebraic Geometry Seminar", Fall 2001, Fall 2002–Spring 2006.

Co-organized "Algebra, Geometry and Physics Seminar" at Stony Brook University, Fall 2006–present.

Research grant reviewer for NSA, Dutch National Science Council

Co-advised Ph.D. candidate Rebecca Lehman at MIT (with I. Coskun); thesis completed Fall 2007. Advised Ph.D. candidate Yusuf Mustopa at Stony Brook U.; thesis completed Fall 2008. Currently advising Ph.D. candidate Rob Findley at Stony Brook U.

Advised 7 undergraduate math majors at MIT.

Served on 8 doctoral qualifying commitees at MIT, and 2 doctoral qualifying committees at Stony Brook U.

Served on 6 thesis committees at MIT, 1 at Harvard, 1 at Boston U., 1 at Columbia U., and 1 at Stony Brook U.

Teaching experience

Summer 1999
Calculus I. Recitation Instructor. Harvard Summer School.
Fall 1999
1. Graduate Algebraic Geometry, 260A. Recitation Instructor. Harvard.
Fall 2000
2. Multivariable Calculus, 18.01. Recitation Instructor. MIT.
Spring 2001
3. Honors Differential Equations, 18.034. Recitation Instructor. MIT.
4. Measure theory and Fourier analysis, 18.103. Instructor. MIT.
Fall 2001
5. Linear algebra, 18.700. Instructor. MIT.
6. Undergraduate seminar in algebra and number theory, 18.704. Instructor. MIT.
Fall 2002
7. Undergraduate seminar in algebra and number theory, 18.704. Instructor. MIT.
8. Graduate Algebraic Geometry, 18.725. Instructor. MIT.
Spring 2003
9. Differential Equations, 18.03. Recitation Instructor. MIT.

Fall 2003
10. Single variable calculus, 18.01. Instructor and course head. MIT.
Spring 2004
11. Honors Differential Equations, 18.034. Instructor. MIT.
Fall 2004
12. Linear algebra, 18.700. Instructor. MIT.
13. Graduate Algebraic Geometry, 18.725. Instructor. MIT.
Spring 2005
14. Topics in algebraic geometry: quantum cohomology, 18.727. Instructor. MIT.
Fall 2005
15. Single variable calculus, 18.01. Instructor and course head. MIT.
Spring 2006
16. Graduate Algebraic Geometry, second semester, 18.726. Instructor. MIT.
17. Independent activities, 18.099. MIT.
Fall 2006
18. Algebra III: Commutative algebra, MAT536. Instructor. Stony Brook U.
19. Calculus I, MAT131. Instructor (not head instructor). Stony Brook U.
Spring 2007
20. Independent study in special topics, MAT487. Stony Brook U.
21. Independent study, MAT698. Stony Brook U.
22. Dissertation research on campus, MAT699. Stony Brook U.
Fall 2007
23. Calculus I, MAT131. Head instructor. Stony Brook U.
24. Introduction to linear algebra, MAT211. Instructor. Stony Brook U.
Spring 2008
25. Dissertation research on campus, MAT699. Stony Brook U.
Fall 2008
26. Calculus I, MAT131. Head instructor. Stony Brook U.
27. Algebra III, MAT536. Stony Brook U.
28. Independent study, MAT698. Stony Brook U.
29. Dissertation research on campus, MAT699. Stony Brook U.
Spring 2009
30. Independent study, MAT698. Stony Brook U.
31. Dissertation research on campus, MAT699. Stony Brook U.

Talks

Seminar talks at Harvard, Univ. Mich. Ann Arbor, Princeton, U. C. Berkeley, Cornell, Columbia, Stanford, Ohio State, Univ. Ill. Urbana-Champaign, Univ. Quebec á Montreal, Rice Univ., Brown, Inst. de Math. Jussieu, Ecole Norm. Sup., Stony Brook U., Univ. of Md., Caltech.

Colloquium talks at Princeton, U. Mass. Amherst, Rutgers, Univ. Wisc. Madison., Washington U., U. of Utah.

Invited speaker in conferences at Math. Forsch. Oberwolfach, MSRI, Austr. Natl. Univ., Rice Univ., Univ. Mich. Ann Arbor, Univ. of Miami, Colorado State U., Univ. de Nice, Univ. of Washington, Johns Hopkins Univ., CRM Montreal, Natl. Taiwan U., Levico Terme., Univ. of Mo.

Delivered mini-courses at Inst. Math. Pure and Applied in Rio de Janeiro, Brazil, at Clay Math. Inst. Summer School in Göttingen, Germany, and at Soc. Math. de France workshop in Strasbourg, France.

February, 2009