Curriculum Vitae

Brendan Hassett

November 2, 2026

Positions

Jonathan Nelson University Professor of Mathematics, Brown University, from July 2023
Director, Institute for Computational and Experimental Research in Mathematics, from July 2016
Professor of Mathematics, from July 2015

Milton Brockett Porter Professor, Rice University, July 2013 to June 2015
Chair, Department of Mathematics, July 2009 to June 2014
Professor of Mathematics, July 2006 to June 2015
Associate Professor of Mathematics, July 2003 to June 2006
Assistant Professor of Mathematics, July 2000 to June 2003

Professeur Invité, Université Paris-Sud, Orsay, March to April 2005

Visiting Scholar, Institute of Mathematical Sciences, Chinese University of Hong Kong, August 2000 to July 2001

Dickson Instructor of Mathematics, University of Chicago, October 1996 to September 2000

Visitor at the Institut Mittag-Leffler, Stockholm, January to March 1997

Education

Harvard University, M.A., 1994, and Ph.D., 1996 (supervised by Joe Harris)

Yale College, B.A. with distinction in mathematics, *summa cum laude*, 1992

Awards

Fellow of the American Association for the Advancement of Science, 2022

Fellow of the American Mathematical Society, 2014

Charles W. Duncan Jr. Achievement Award for Outstanding Faculty, Rice University, 2009

Phi Beta Kappa junior year and Barge, Stanley, and DeForest mathematics prizes, Yale College, 1990–1992

Grants and Fellowships

American Mathematical Society Backstop Grant: July 1, 2026 – June 30, 2027

National Science Foundation Grant 2424556: September 1, 2025 – August 31, 2030; Institute for Computational and Experimental Research in Mathematics (PI)

National Security Agency Award: August 20, 2024 – August 19, 2025; Summer@ICERM 2024 (PI)

Sloan Foundation: September 1, 2024–August 31, 2025; 2024 Blackwell-Tapia Conference (PI)

National Science Foundation Grant 2331890: September 1, 2023–August 31, 2025; PRIMES: Enhancing Capacity for Research in Applied Mathematics at Spelman College (co-PI)

National Security Agency Award: June 1, 2023–May 31, 2024; Summer@ICERM 2023 (PI)

National Science Foundation Grant 2309181: May 1, 2023–April 30, 2024; Conference: Arithmetic, Birational Geometry, and Moduli (PI)

Simons Foundation Award 815891: September 1, 2021–August 31, 2023; Simons Bridge for Postdoctoral Fellowships at ICERM (PI)

National Security Agency Award: September 2, 2020–September 1, 2022; Summer@ICERM 2020 (PI)

National Science Foundation Grant 1929284: September 1, 2020–August 31, 2026; Institute for Computational and Experimental Research in Mathematics (PI)

Sloan Foundation: July 1, 2019–June 30, 2020; Fall 2019 Illustrating Mathematics (PI)

National Security Agency Award: March 21, 2019–March 20, 2020; Summer@ICERM Research Experiences for Undergraduates (PI)

Sloan Foundation: May 1, 2018–August 31, 2019; 2018 Blackwell-Tapia Conference (PI)

Simons Foundation Award 546235: September 1, 2017–August 31, 2025; Simons Collaboration "Arithmetic geometry, number theory, and computation" (PI and collaboration director)

National Science Foundation Grant 1701659: July 1, 2017–June 30, 2022; Rationality and Irrationality in Families of Varieties (PI)

Simons Foundation Award 507536: July 1, 2017–February 28, 2025; Targeted Grants to Institutes: Institute for Computational and Experimental Research in Mathematics (PI)

National Science Foundation Grant 1439786: September 15, 2015–August 31, 2021; Institute for Computational and Experimental Research in Mathematics (PI)

National Science Foundation Grant 1447423: January 1, 2015–December 31, 2016; 2015 AMS Summer Institute in Algebraic Geometry (co-PI)

National Science Foundation Grants 1401764 and 1551514: July 1, 2014–June 30, 2017; Descent, rational points, and the geometry of moduli spaces (PI)

National Science Foundation Grant 1148609: August 15, 2012–July 31, 2017; RTG: Analysis, Geometry and Topology at Rice University (PI to June 30, 2015)

National Science Foundation Grant 0931908: August 15, 2010–July 31, 2017; Institute for Computational and Experimental Research in Mathematics (successor to founding PI Jill Pipher)

National Science Foundation Grant 0968349: July 1, 2010–June 30, 2014; FRG: Collaborative Research: Arithmetic and geometry of rational curves on K3 surfaces (lead PI for a Focused Research Group involving three universities)

National Science Foundation Grant 0901645: July 1, 2009–June 30, 2013; Birational geometry, symplectic varieties, and moduli spaces (PI)

National Science Foundation Grant 0554491: July 1, 2006–June 30, 2010; Collaborative Research: FRG: Geometry of moduli spaces of rational curves with applications to Diophantine problems over function fields (lead PI for a Focused Research Group involving four universities)

Alfred P. Sloan Research Fellow: September 15, 2003–September 14, 2006

National Science Foundation Grant 0134259: July 1, 2002–June 30, 2008; CAREER: Algebraic Geometry of Moduli Spaces (PI)

National Science Foundation Grants 0070537 and 0196187: October 1, 2000–June 30, 2004; Rational Points on Algebraic Varieties and Geometry of Curves and Surfaces (PI)

National Science Foundation Fellowship 9705879: June 1, 1997–May 31, 2001; Mathematical Sciences Postdoctoral Research Fellowship

Sloan Dissertation Fellowship, 1995–1996

National Science Foundation Graduate Fellowship, 1992–1995

Editorial

European Journal of Mathematics (2014–)

Journal of the European Mathematical Society (2015–2023)

Experimental mathematics (2008–2022)

Journal of Algebraic Geometry (2012–2017)

Central European Journal of Mathematics (2009–2014)

Publications

Books

Arithmetic Geometry, Number Theory, and Computation, edited with Jennifer Balakrishnan, Noam Elkies, Bjorn Poonen, Andrew Sutherland, and John Voight, Simons Symposia, Springer, 2021

Algebraic Geometry: Salt Lake City 2015, proceedings of the 2015 AMS Summer Research Institute on Algebraic Geometry, edited with Tommaso de Fernex, Mircea Mustaţă, Martin Olsson, Mihnea Popa, and Richard Thomas, Proceedings of Symposia in Pure Mathematics **97**, American Mathematical Society, 2018

Geometry over Nonclosed Fields, proceedings of the 2015 Simons Symposium, edited with Fedor Bogomolov and Yuri Tschinkel, Springer International, 2017

Brauer Groups and Obstruction Problems — Moduli Spaces and Arithmetic, proceedings of the 2013 workshop at the American Institute of Mathematics, edited with Asher Auel, Anthony Várilly-Alvarado, and Bianca Viray, Progress in Mathematics **320**, Birkhäuser/Springer International, 2017

A Celebration of Algebraic Geometry, Conference in honor of Joe Harris' 60th birthday at Harvard University, edited with James M^{c}Kernan, Jason Starr, and Ravi Vakil, Clay Mathematics Proceedings **18**, American Mathematical Society, Providence, 2013

Birational Geometry, Rational Curves, and Arithmetic, proceedings of the 2012 Simons Symposium, edited with Fedor Bogomolov and Yuri Tschinkel, Springer Verlag, New York, 2013

Arithmetic Geometry, proceedings of the 2006 Clay Mathematics Institute Summer School, edited with Henri Darmon, David Ellwood, and Yuri Tschinkel, Clay Mathematics Proceedings **8**, American Mathematical Society, Providence, 2009

Introduction to Algebraic Geometry, Cambridge University Press, 2007

Papers

Witt rings, Pfister forms, and equivariant birational geometry, with Yuri Tschinkel

Moduli of conic surfaces over the line, with Amanda Hernandez

Degree two unirational parametrizations over the real field, with Hayato Takagi and Sho Tanimoto, to appear in *EMS Surveys in Mathematical Sciences*

Cubic fourfolds of discriminant 24 and rationality, to appear in *Algebraic Geometry*

Involutions on K3 surfaces and derived equivalence, with Yuri Tschinkel, *Mathematische Zeitschrift* **312** (2026), no. 1, Paper No. 18

Equivariant geometry of low-dimensional quadrics, with Yuri Tschinkel, *Taiwanese Journal of Mathematics* **29** (2025), no. 6, 1381–1402

Appendix to "Equivariant birational geometry of cubic fourfolds and derived categories" by Christian Böhning, Hans-Christian Graf von Bothmer, and Yuri Tschinkel, *Advances in Mathematics* **469** (2025) article 110249

Rationality of forms of $\overline{M}_{0,n}$, with Yuri Tschinkel and Zhijia Zhang, *Journal of the London Mathematical Society* **111** (2025), no. 2, Paper No. e70097

Equivariant derived equivalence and rational points on K3 surfaces, with Yuri Tschinkel, *Communications in Number Theory and Physics* **17** (2023), no. 2, 293–312

Torsors and stable equivariant birational geometry, with Yuri Tschinkel, *Nagoya Mathematical Journal* **250** (2023), 275–297

Stable rationality in smooth families of threefolds, with Andrew Kresch and Yuri Tschinkel, *Duke Mathematical Journal* **172** (2023), no. 6, 1145–1172

Reduction of Brauer classes on K3 surfaces, rationality, and derived equivalence, with Sarah Frei and Anthony

Várilly-Alvarado, *Journal für die reine und angewandte Mathematik* **792** (2022), 289–305

Equivariant geometry of odd-dimensional complete intersections of two quadrics, with Yuri Tschinkel, *Pure and Applied Mathematics Quarterly* **18** (2022), no. 4, 1555–1597

Rationality of even-dimensional intersections of two real quadrics, with János Kollár and Yuri Tschinkel, *Commentarii Mathematici Helvetici* **97** (2022), no. 1, 183–207

Appendix to "Congruent number triangles with the same hypotenuse" by David Lowry-Duda, *Arithmetic geometry, number theory, and computation*, Simons Symposia, 521–536, Springer, Cham, 2021

Symbols and equivariant birational geometry in small dimensions, with Andrew Kresch and Yuri Tschinkel, proceedings of the 2019 Schiermonnikoog conference 'Rationality of varieties', G. Farkas, G. van der Geer, M. Shen, and L. Taelman eds., 201–236, Progress in Mathematics **342**, Springer 2021

Rationality of Fano threefolds of degree 18 over nonclosed fields, with Yuri Tschinkel, proceedings of the 2019 Schiermonnikoog conference 'Rationality of varieties', G. Farkas, G. van der Geer, M. Shen, and L. Taelman eds., 237–247, Progress in Mathematics **342**, Springer 2021

Rationality of complete intersections of two quadrics over nonclosed fields, with Yuri Tschinkel and including an appendix by Jean-Louis Colliot-Thélène, *L'Enseignement mathématique* **67** (2021), no. 1-2, 1–44

Cycle class maps and birational invariants, with Yuri Tschinkel, *Communications on Pure and Applied Mathematics* **74** (2021), Issue 12, 2675–2698

Varieties of planes on intersections of three quadrics, with Yuri Tschinkel, *European Journal of Mathematics* **7** (2021), 613–632

Cubic fourfolds fibered in sextic del Pezzo surfaces, with Nicolas Addington, Yuri Tschinkel, and Anthony Várilly-Alvarado, *American Journal of Mathematics* **141** (2019), no. 6, 1479–1500

On stable rationality of Fano threefolds and del Pezzo fibrations, with Yuri Tschinkel, *Journal für die reine und angewandte Mathematik* **751** (2019), 275–287

A very general quartic double fourfold is not stably rational, with Alena Pirutka and Yuri Tschinkel, *Algebraic Geometry* **6 (1)** (2019), 64–75

Intersections of three quadrics in $\mathbb{P}^7$, with Alena Pirutka and Yuri Tschinkel, *Surveys in Differential Geometry* Vol. **22**, No. 1 (2017), 259–274

Stable rationality of quadric surface bundles over surfaces, with Alena Pirutka and Yuri Tschinkel, *Acta Mathematica* **220** (2018), no. 2, 341–365

Cremona transformations and derived equivalences of K3 surfaces, with Kuan-Wen Lai, *Compositio Mathematica* **154** (2018), no. 7, 1508–1533

Cubic fourfolds, K3 surfaces, and rationality questions, *Rationality Problems in Algebraic Geometry*, R. Pardini and G.P. Pirola eds., CIME Foundation Subseries, Lecture Notes in Mathematics **2172**, 29–66, Springer 2016

Rational points on K3 surfaces and derived equivalence, with Yuri Tschinkel *Brauer groups and obstruction problems: moduli spaces and arithmetic*, A. Auel, B. Hassett, A. Várilly-Alvarado, and B. Viray eds., Progress in Mathematics **320**, 87–113, Springer 2017

Stable rationality and conic bundles, with Andrew Kresch and Yuri Tschinkel, *Mathematische Annalen* **365** (2016), no. 3-4, 1201–1217

On the moduli of degree 4 Del Pezzo surfaces, with Andrew Kresch and Yuri Tschinkel, *Development of Moduli Theory – Kyoto 2013*, O. Fujino, S. Kondô, A. Moriwaki, M.-H. Saito and K. Yoshioka eds., Advanced Studies in Pure Mathematics **69**, 349–382, Mathematical Society of Japan, 2016

Extremal rays and automorphisms of holomorphic symplectic varieties, with Yuri Tschinkel, *K3 surfaces and their Moduli*, proceedings of a 2014 conference at Schiermonnikoog, The Netherlands, C. Faber, G. Farkas, and G. van der Geer eds., 73–95, Progress in mathematics **315** Birkhhäuser, 2016

Mori cones of holomorphic symplectic varieties of K3 type, with Arend Bayer and Yuri Tschinkel, *Annales scientifiques de l'École normale supérieure* **48**, fasc. 4 (2015), 941–950

Balanced line bundles and equivariant compactifications of homogeneous spaces, with Sho Tanimoto and Yuri Tschinkel, *International Mathematics Research Notices* **2015**, no. 15, 6375–6410

Embedding pointed curves in K3 surfaces, with Yuri Tschinkel, *Mathematische Zeitschrift* **278** (2014), no. 3, 927–953

Quartic del Pezzo surfaces over function fields of curves, with Yuri Tschinkel, *Central European Journal of Mathematics* **12** (2014), no. 3, 395–420

Failure of the Hasse principle on general K3 surfaces, with Anthony Várilly-Alvarado, *Journal of the Institute of Mathematics of Jussieu* **12** (2013), no. 4, 853–877

Appendix to 'Using a Bihomogeneous Resultant to Find the Singularities of Rational Space Curves' by Xiaoran Shi, Xiaohong Jia, and Ron Goldman, *Journal of Symbolic Computation* **53** (2013), 1–25

Log minimal model program for the moduli space of stable curves: The first flip, with Donghoon Hyeon, *Annals of Mathematics* **177** (2013), no. 3, 911–968

Effective computation of Picard groups and Brauer-Manin obstructions of degree two K3 surfaces over number fields, with Andrew Kresch and Yuri Tschinkel, *Rendiconti del Circolo Matematico di Palermo* **62** (2013), no. 1, 137–151

Hodge theory and Lagrangian planes on generalized Kummer fourfolds, with Yuri Tschinkel, *Moscow Mathematical Journal* **13** (2013), no. 1, 33–56

Spaces of sections of quadric surface fibrations over curves, with Yuri Tschinkel, *Compact moduli spaces and vector bundles*, V. Alexeev et al. eds., Contemporary Mathematics **564**, 227–249, American Mathematical Society, Providence, 2012

Characterizing projective spaces on deformations of Hilbert schemes of K3 surfaces, with David Harvey and Yuri Tschinkel, *Communications on Pure and Applied Mathematics* **65** (2012), no. 2, 264–286

Transcendental obstructions to weak approximation on general K3 surfaces, with Anthony Várilly-Alvarado and Patrick Varilly, *Advances in Mathematics* **228** (2011), no. 3, 1377–1404

Constructing rational curves on K3 surfaces, with Fedor Bogomolov and Yuri Tschinkel, *Duke Mathematical Journal* **157** (2011), no. 3, 535–550

Stable varieties with a twist, with Dan Abramovich, *Classification of algebraic varieties*, proceedings of the 2009 conference at Schiermonnikoog the Netherlands, Carel Faber, Gerard van der Geer, and Eduard J.N.

Looijenga eds., 1–38, European Mathematical Society, Zürich, 2011

Weak approximation and rationally connected varieties over function fields of curves, in *Variétés rationnellement connexes : aspects géométriques et arithmétiques*, Panoramas et synthèses **31** (2010), 115–153, Société Mathématique de France

Intersection numbers of extremal rays on holomorphic symplectic varieties, with Yuri Tschinkel, *Asian Journal of Mathematics* **14** (2010), no. 3, 303–322

Flops on holomorphic symplectic fourfolds and determinantal cubic hypersurfaces, with Yuri Tschinkel, *Journal of the Institute of Mathematics of Jussieu* **9** (2010), no. 1, 125–153

Stability computation via Gröbner bases, with Donghoon Hyeon and Yongnam Lee, *Journal of the Korean Mathematical Society* **47** (2010), no. 1, 41–62

Rational surfaces over nonclosed fields, *Arithmetic Geometry*, proceedings of the 2006 Clay Mathematics Institute Summer School, Clay Mathematics Proceedings **8**, 155–210, American Mathematical Society, Providence, 2009

Moving and ample cones for holomorphic symplectic fourfolds, with Yuri Tschinkel, *Geometric and Functional Analysis* **19** (2009), no. 4, 1065–1080

Log canonical models for the moduli space of curves: The first divisorial contraction, with Donghoon Hyeon, *Transactions of the American Mathematical Society* **361** (2009), 4471–4489

Weak approximation for hypersurfaces of low degree, with Yuri Tschinkel, *Algebraic Geometry–Seattle 2005*, D. Abramovich et al. eds., Proceedings of Symposia in Pure Mathematics **80**, no. 2, 937–955, American Mathematical Society, Providence, 2009

Potential density of rational points for K3 surfaces over function fields, with Yuri Tschinkel, *American Journal of Mathematics* **130** (2008), no. 5, 1263–1278

Log Fano varieties over function fields of curves, with Yuri Tschinkel, *Inventiones mathematicae* **173** (2008), no. 1, 7–21

Approximation at places of bad reduction for rationally connected varieties, with Yuri Tschinkel, *Pure and Applied Mathematics Quarterly* **4** (2008), no. 3, 743–766

Weak approximation over function fields, with Yuri Tschinkel, *Inventiones mathematicae* **163** (2006), no. 1, 171–190

Classical and minimal models of the moduli space of curves of genus two, *Geometric methods in algebra and number theory,* F. Bogomolov and Y. Tschinkel eds., 169–192, Progress in mathematics **235**, Birkhhäuser, Boston, 2005

Improving conformational searches by geometric screening, by Ming Zhang, R. Allen White, Liqun Wang, Ronald Goldman, Lydia Kavraki, and Brendan Hassett, *Bioinformatics* **21** (2005), no. 5, 624–630

Universal torsors and Cox rings, with Yuri Tschinkel, *Arithmetic of higher-dimensional varieties,* B. Poonen and Y. Tschinkel eds., 149–173, Progress in mathematics **226**, Birkhhäuser, Boston, 2004

Reflexive pull-backs and base extension, with Sándor Kovács, *Journal of Algebraic Geometry*, **13** (2004), 233–247

Integral points and effective cones of moduli spaces of stable maps, with Yuri Tschinkel, *Duke Mathematical Journal,* **120** (2003), no. 1, 577–599; correction in **125** (2004), no. 1, 205–206

Potential density of rational points on algebraic varieties, *Higher Dimensional Varieties and Rational Points,* K.J. Böröczky, J. Kollár, T. Szamuely eds., Bolyai Society Mathematical Studies, Vol. 12, 223–282 Springer Verlag, Heidelberg, 2003

Moduli spaces of weighted pointed stable curves, *Advances in Mathematics,* **173** (2003), Issue 2, 316–352

On the effective cone of the moduli space of pointed rational curves, with Yuri Tschinkel, *Topology and Geometry: Commemorating SISTAG,* A.J. Berrick, M.C. Leung, and X.W. Xu eds., Contemporary mathematics **314**, 83–96, American Mathematical Society, Providence, 2002

The weak Lefschetz principle is false for ample cones, with Hui-Wen Lin and Chin-Lung Wang, *Asian Journal of Mathematics* **6** (2002), no. 1, 95–100

Density of integral points on algebraic varieties, with Yuri Tschinkel, *Rational Points on Algebraic Varieties*, (Points rationnels des variétés algébriques, Luminy, 1999), E. Peyre and Y. Tschinkel eds., 165–197, Progress in mathematics **199**, Birkhhäuser, Boston, 2001

Rational curves on holomorphic symplectic fourfolds, with Yuri Tschinkel, *Geometric and Functional Analysis* **11** (2001), no. 6, 1201–1228

Brauer groups and quotient stacks, with Dan Edidin, Andrew Kresch, and Angelo Vistoli, *American Journal of Mathematics* **123** (2001), no. 4, 761–777

Stable limits of log surfaces and Cohen-Macaulay singularities, *Journal of Algebra* **242** (2001), no. 1, 225–235

Abelian fibrations and rational points on symmetric products, with Yuri Tschinkel, *International Journal of Mathematics* **11** (2000), no. 9, 1163–1176

Local stable reduction of plane curve singularities, *Journal für die reine und angewandte Mathematik* **520** (2000), 169–194

Special cubic fourfolds, *Compositio Mathematica* **120** (2000), no. 1, 1–23

Geometry of equivariant compactifications of $\mathbb{G}_a^n$, with Yuri Tschinkel, *International Mathematical Research Notices* **1999**, no. 22, 1211–1230

Stable log surfaces and limits of quartic plane curves, *manuscripta mathematica* **100** (1999), no. 4, 469–497

Some rational cubic fourfolds, *Journal of Algebraic Geometry* **8** (1999), no. 1, 103–114

Correlation for surfaces of general type, *Duke Mathematical Journal* **85** (1996), no. 1, 95–107

Special Cubic Hypersurfaces of Dimension Four, Harvard University thesis, 1996

Preprint versions of most papers are available at `https://sites.google.com/view/brendan-hassett/papers-and-preprints`.

Research Students and Fellows

Postdoctoral Fellows

Candace Bethea: NSF MPS-Ascend Postdoctoral Fellow 2024–

Isabel Vogt: NSF Postdoctoral Fellow, 2021–2022

John Calabrese: RTG-Lovett Instructor and NSF Postdoctoral Fellow, 2014–2018

Ye Luo: Evans Instructor, 2014–2015

Brian Lehmann: NSF Postdoctoral Fellow and Evans Instructor, 2011–2014

Evan Bullock: VIGRE-Lovett Instructor, 2009–2012

Anthony Várilly-Alvarado: Evans Instructor, 2009–2012

Kelly McKinnie: Evans Instructor and NSF Postdoctoral Fellow, 2007–2009

Sabin Cautis: Evans Instructor, 2006–2008

Olivier Wittenberg: Visiting Evans Instructor, 2006–2007

Chris Rasmussen: Evans instructor, 2004–2007

James Spencer: VIGRE-Lovett instructor, 2003–05

Donghoon Hyeon: Evans instructor, 2001–2004

Graduate Thesis Students

Hao Sun: 2025–

Yuhan Liu: 2025– , with Eric Larson

Amanda Hernandez: 2024–

Sarah Griffith: 2020–

Yeqiu Wang: Ph.D. 2025, Brown

Shamil Asgarli: Ph.D. 2019, Brown

Yuwei Zhu: Ph.D. 2019, Brown

Kuan-Wen Lai: Ph.D. 2018, Brown

Derek Allums: Ph.D. 2016, Rice

Natalie Durgin: Ph.D. 2015, Rice

Nikita Kozin: Ph.D. 2015, Rice

Diego Vela: Ph.D. 2015, Rice, with Tim Cochran

Letao Zhang: Ph.D. 2014, Rice

Benjamin Waters: M.A. 2013, Rice

Zhiyuan Li: Ph.D. 2012, Rice

Fei Xu: Ph.D. 2011, Rice

Shuijing Li: Ph.D. 2010, Rice

Christian Bruun: M.A. 2009, Rice

Matthew Simpson: Ph.D. 2008, Rice

Bradley Duesler: M.A. 2008, Rice

Amanda Knecht: Ph.D. 2007, Rice

Dajiang Liu: M.A. 2006, Rice

Jun Zhang: Ph.D. 2005, Rice

Thesis committees

Doctoral committees: Seunghun Lee (University of Illinois, Chicago), Anders Buch (University of Chicago), Aaron Heap (Rice), David Madore (Université Paris-Sud), Ning Song (Rice computer science), David Smyth (Harvard), Adam Ginensky (University of Chicago), David Jensen (University of Texas, Austin), Frederick van der Wyck (Harvard), Alexander Duncan (University of British Columbia), David Kahle (Rice statistics), Brian Katz (University of Texas, Austin), Olivier Benoist (Université Paris Diderot), Yong Hu (Université Parid-Sud), Kenneth Ascher (Brown), Dori Bejleri (Brown), Alicia Harper (Brown), Giovanni Inchiostro (Brown), Max Weinreich (Brown), Ching-Peng Huang (Brown applied math), Tangli Ge (Brown), Jieao Song (Université Paris Cité), Ming Hao Quek (Brown), Mark Sing (Brown), Shiyue Li (Brown), Stephen Obinna (Brown), and Eric Zhu (Brown)

Masters committees: Steve Wallace (Rice) and Ning Song (Rice computer science)

Undergraduate Research and Independent Study

Xinbei Wang (2026-27); Smita Rajan (2023-24); Tyler Lane (2022–24); Joseph Hlavinka (2022); Nick Ryder and Karl Schaefer (2013–14); Henry Gorman and Thomas Motter (summer 2010); Mike Clendenen, Ira Jamshidi, Lauren Kirton, and David Lax (summer 2009); Chris Fraser, Robert Kuvinka, Paul Munger, and Marjorie Scherf (summer 2008); Ian Feldman and Patrocinio Rivera (summer 2007); David Eng, Ian Feldman, Robbie Fraleigh, Itamar Gal, Daniel Glasscock, Taylor Goodhart, Dugan Hammock, Aaron Hallquist, Patrocinio Rivera, and Jonathan Skowera (summer 2006); Thomas Murphy and Abraham Taicher (summer 2005); Stefan Allan, Harding Brumby, Christian Bruun, and Joe Vavra (summer 2004)

Meetings and Conferences Organized

Blackwell-Tapia Conference, Rice University (with S. Bañuelos, K. Corlette, I. Hicks, R. Megginson, J. Meza, T. Toro, A. Várilly-Alvarado, and U. Wilson), December 4-5, 2026

Simons Collaboration "Arithmetic Geometry, Number Theory, and Computation" Annual Meeting, January 15–16, 2025

Blackwell-Tapia Conference, ICERM (with R. Bañuelos, R. Buckmire, R. Megginson, T. Toro, and U. Wilson), November 15–16, 2024

Simons Symposium "Geometry Over Non-Closed Fields" (with L. Katzarkov and Y. Tschinkel), August 25–31, 2024 at Schloss Elmau, Germany

Simons Foundation conference "Arithmetic Geometry, Group Actions and Rationality Problems" (with L. Katzarkov and T. Pantev), May 29–31, 2024

Simons Collaboration "Arithmetic Geometry, Number Theory, and Computation" Annual Meeting, January 11–12, 2024

Special session "Arithmetic Geometry with a View toward Computation" at the Joint Mathematics Meetings (with B. Banwait, S. Chidambaram, J. Duque-Rosero, D. Lowry-Duda, and C. Schembri), January 5-6, 2024

Arithmetic, Birational Geometry, and Moduli Spaces at Brown (with K. Ascher, D. Bejleri, Q. Chen, A. Gibney, S. Marcus, M. Ulirsch, and J. Wise), June 12–16, 2023

AI to Assist Mathematical Reasoning: A Workshop hosted online by the National Academies, June 12–14, 2023

Simons Collaboration "Arithmetic Geometry, Number Theory, and Computation" Annual Meeting, January 11–12, 2023

AGNES Summer School on Higher Dimensional Moduli at Brown (with D. Abramovich, M. Chan, E. Larson, and I. Vogt), August 16–19, 2022

Special session "Explicit Methods for Modularity" at the Joint Mathematics Meetings (with E. Assaf, E. Costa, and D. Roe) – rescheduled due to COVID as virtual lecture series, April 11–15, 2022

Simons Collaboration "Arithmetic Geometry, Number Theory, and Computation" Annual Meeting, January 13, 2022

"AGNES goes to school" virtual meeting at Brown (with D. Abramovich and M. Brandt), May 4–5, 2021

Simons collaboration "Workshop on Arithmetic Geometry, Number Theory, and Computation" at ICERM (with J. Balakrishnan, N. Elkies, B. Poonen, A. Sutherland, and J. Voight), June 1–5, 2020

Special session "Rational Points on Algebraic Varieties: Theory and Computation" at the Joint Mathematics Meetings (with A. Sutherland and A. Várilly-Alvarado), January 16–17, 2020

Simons Collaboration "Arithmetic Geometry, Number Theory, and Computation" Annual Meeting (with J. Balakrishnan, N. Elkies, B. Poonen, A. Sutherland, and J. Voight), January 9–10, 2020

Simons collaboration workshop "Arithmetic of low dimensional abelian varieties", at ICERM (with J. Balakrishnan, N. Elkies, B. Poonen, A. Sutherland, and J. Voight), June 3–7, 2019

Special session "Arithmetic Geometry, Number Theory, and Computation" at the Joint Mathematics Meetings (with A. Sutherland and J. Voight), January 19, 2019

Simons Collaboration "Arithmetic Geometry, Number Theory, and Computation" Annual Meeting (with J. Balakrishnan, N. Elkies, B. Poonen, A. Sutherland, and J. Voight), January 10–11, 2019

Blackwell-Tapia Conference, ICERM (with C. Castillo-Chavez, D. Eisenbud, J. Hughes-Oliver, R. Megginson,

M. Vazquez, R. Wilson, and U. Wilson) November 9–10, 2018

Algebraic Geometry Northeastern Series, Brown University (with D. Abramovich, M. Chan, A. Leykin, and R. Ramadas), September 21–23, 2018

Simons collaboration conference "Arithmetic Geometry, Number Theory, and Computation", MIT (with J. Balakrishnan, N. Elkies, B. Poonen, A. Sutherland, and J. Voight), August 20–24, 2018

Simons Symposium "Geometry over non-closed fields III", Schloss Elmau, Germany (with F. Bogomolov and Y. Tschinkel), April 17–23, 2016

Algebraic Geometry Northeastern Series, Brown University (with D. Abramovich, A. Braverman, M. Chan, S. Lichtenbaum, and N. Pflueger), October 2–4, 2015

AMS Summer Institute in Algebraic Geometry, University of Utah (chair, with T. de Fernex, M. Mustaţă, M. Olsson, M. Popa, and R. Thomas), July 12–August 1, 2015

Simons Symposium "Geometry over non-closed fields II", Puerto Rico, (with F. Bogomolov and Y. Tschinkel), March 22–28, 2015

Texas Algebraic Geometry Symposium, Rice University (with A. Várilly-Alvarado), April 4–6, 2014

FRG Workshop "Arithmetic and geometry of rational curves", Rice University (with Y. Tschinkel), September 20–22, 2013

Special session on "Algebraic geometry", Western Sectional Meeting of the AMS, University of Colorado, Boulder (with R. Cavalieri, S. Casalaina-Martin, and J. Wise), April 12–14, 2013

Workshop on "Brauer groups and obstruction problems: Moduli spaces and arithmetic", American Institute of Mathematics in Palo Alto (with A. Auel, A. Várilly-Alvarado, and B. Viray), February 25–March 1, 2013

Workshop on "Log minimal model program for moduli spaces", American Institute of Mathematics in Palo Alto (with J. Alper, M. Fedorchuk, and D. Smyth), December 10–14, 2012

Texas Geometry and Topology Conference, Rice University (with A. Putman), November 9–11, 2012

Simons Symposium "Geometry over non-closed fields", St. John, U.S. Virgin Islands (with F. Bogomolov and Y. Tschinkel), February 26–March 3, 2012

A Celebration of Algebraic Geometry: A Conference in Honor of Joe Harris' 60th Birthday (scientific advisory committee), Harvard University, August 25–28, 2011

FRG Workshop "Holomorphic symplectic varieties", Courant Institute, New York University (with F. Bogomolov, J. Kollár, and Y. Tschinkel), June 4–5, 2011

Moduli spaces and moduli stacks, Columbia University (with J. Alper, J. de Jong, J. Starr, and M. Thaddeus), May 23–27, 2011

Texas Algebraic Geometry Symposium, Rice University (with E. Bullock and A. Várilly-Alvarado), April 22–24, 2011

FRG conference "Spaces of curves and their interaction with diophantine problems", Columbia University (with A.J. de Jong, J. Starr, and Y. Tschinkel), June 1–5, 2009

Jumbo semester program on "Algebraic geometry" at the Mathematical Sciences Research Institute in Berke-

ley (with William Fulton, Joe Harris, Robert Lazarsfeld, János Kollár, Sándor Kovács, and Ravi Vakil), Spring 2009

Introductory workshop "Classical algebraic geometry today", Mathematical Sciences Research Institute (with Lucia Caporaso, James McKernan, Mircea Mustaţă, and Mihnea Popa), January 26–30, 2009

Connections: Algebraic geometry and related fields, Mathematical Sciences Research Institute (with Angela Gibney, Sándor Kovács, Diane Maclagan, Jessica Sidman, and Ravi Vakil), January 22–24, 2009

Texas Algebraic Geometry Seminar, Rice University (with Sabin Cautis), April 11–13, 2008

Rational Curves and Diophantine Problems over Function Fields, Clay Mathematics Institute (with Johan de Jong, David Ellwood, Jason Starr, and Yuri Tschinkel) November 2–4, 2007

Rational curves on algebraic varieties, American Institute of Mathematics in Palo Alto (with Sándor Kovács), May 7–11, 2007

Clay Mathematics Institute Summer School "Arithmetic Geometry", University of Göttingen (with Henri Darmon, David Ellwood, and Yuri Tschinkel), July 17–August 11, 2006

Undergraduate conference in algebraic geometry at Rice University (with Chris Rasmussen and Robert Hardt), February 10–12, 2006

Special session in algebraic geometry at the joint meeting of the American Mathematical Society (AMS), the Deutsche Mathematiker-Vereinigung, and the Österreichische Mathematische Gesellschaft (with Yuri Tschinkel) at Mainz, Germany, June 16–19, 2005

Texas Algebraic Geometry Seminar, Rice University, founding meeting May 20–22, 2005

Compact moduli spaces and birational geometry, American Institute of Mathematics (with Sándor Kovács), December 6–10, 2004

Texas Geometry and Topology Conference, Rice University, October 31–November 2, 2003

Service

Professional

American Mathematical Society Committee on Committees chair, 2027–2029

Scientific Advisory Board for the EPSRC programme grant "Unifying Arithmetic Statistics", 2026–

Harvard Mathematics Department visiting committee chair, 2017–2020, 2022–2026

California Institute of Technology Division of Physics, Mathematics and Astronomy external review committee, 2025

American Mathematical Society Committee on National Awards and Public Representation, 2025–2027

University of Maryland Mathematics Department external review committee chair, 2024

University of Rochester Mathematics Department external review committee, 2024

American Mathematical Society Committee on Science Policy, 2024–2026

International Congress of Mathematicians 2026 committee on satellite events, 2023–2026

University of Massachusetts Mathematics and Statistics Department external review committee, 2021

Fields Institute Scientific Advisory Panel, 2016–2020

Mount Holyoke College Mathematics and Statistics Department external review committee, 2018

Duke Mathematics Department external review committee, 2018

Board of Trustees of the Mathematical Sciences Research Institute in Berkeley, 2014–2018

Dartmouth Mathematics Department review committee, 2017

Park City Mathematics Institute external review committee, 2016

University of Nevada, Reno, Mathematics and Statistics Department external review committee, 2015

Program Committee for the Central Section of the American Mathematical Society, 2010–2011

Princeton Mathematics Department visiting committee, 2010

Panelist for the National Science Foundation (15 times), the Simons Foundation (twice), and the National Security Agency

Mail reviewer for the National Science Foundation, the National Security Agency, the Civilian Research and Development Foundation, the Natural Sciences and Engineering Research Council of Canada, the NWO of the Netherlands, the Royal Swedish Academy of Sciences, and the Swiss NSF

Referee for numerous journals and conference proceedings

University

Brown University committees: Campus Advisory Committee for Presidential Search (2026–27), Faculty Executive Committee *ad hoc* Committee on Governance Structures (2026–2027), Agenda Committee for Chairs and Directors Meetings (2022–2024), Tenure, Promotion, and Appointments Committee (2019–2022), Committee on Medical Faculty Appointments (2016–2019)

Brown Mathematics Department committees: Lecturers (2025 and 2026–), Nominations (2024-25 and 2018–2020), Standards and Criteria (2022–2023) Graduate Admissions (2021–2023), Senior Appointments (2018–2020), and Undergraduate Curriculum (2015–2017)

Rice University committees: Admissions Committee (chair 2013–2014), Library Committee (2011–2013), search committee for the director of the Office of Faculty Development (2012), ADVANCE committee on retention and recruitment (2007–2008, chair fall 2008), Teaching committee (2002–2008, chair 2006–2007)

Rice Mathematics Department committees: Undergraduate Committee (2012–15), Graduate Committee (2009–2012, chair spring 2012 and 2014–15), Evans Instructor Appointments (2002–2006, 2009–12, 2014–15), Appointments (2003–2014), Accreditation (2009–10), Colloquium faculty advisor (2004–05), Current Mathematics Seminar faculty advisor (2001–03)

Faculty advisor for the Rice Mathematics Circle (2012–2013)

Leader, Computational Algebraic Geometry group of the Rice University VIGRE program, (2003–2014)

Presentations

2026

AMS Special Session on Fano Varieties, K3 Surfaces, and Hyperkähler Manifolds at the Joint Mathematics Meetings in Washington DC: Cubic fourfolds of discriminant 24 and rationality

Lecture series for "Geometry, arithmetic & cohomology of higher dimensional varieties" at the Università di Bologna: Rationality, stable rationality, and geometry of threefolds

CIRM workshop "Cox rings and applications": Moduli of conic bundles, with a view toward rationality statistics

Conference "Hodge theory, Birational Geometry & Atoms" at the Institute of the Mathematical Sciences of the Americas of the University of Miami: Which cubic fourfolds are rational?

Oberwolfach meeting "Moduli Spaces in Algebraic Geometry": Moduli of conic surface bundles, with a view toward rationality statistics

ICERM workshop "Arithmetic, Geometry and Computations on K3 surfaces" Minicourse: Density for rational points on special K3s; Local/global principles, Brauer groups, and obstructions; and Isogenies of K3 surfaces

NYU conference "Fedor Bogomolov at Eighty": Moduli of conic bundles, with a view toward rationality statistics

2025

Simons Collaboration "Arithmetic Geometry, Number Theory, and Computation" Annual Meeting: K3 Surfaces, Computation, and Future Challenges

Rice University colloquium: Moduli of points on the line and their twists

Texas Algebraic Geometry Symposium at Texas A&M: Rationality criteria for cubic hypersurfaces

Simons Foundation Presidential Public Lecture: Databases and discovery in arithmetic

CIRM workshop "Cremona groups": Rationality of forms of $M_{0,n}$

Summer Research Institute in Algebraic Geometry, Colorado State University: Birational and equivariant geometry

Seminario nacional de geometría algebraica EN LÍNEA: Rationality criteria for fourfolds

2024

University of Pennsylvania colloquium: Rationality problems for simple varieties

UCLA Birational Geometry Seminar: Rationality of forms of $M_{0,n}$

Brown Algebraic Geometry Seminar: Rationality of twisted moduli

Online Schubert Seminar: Rationality of twisted moduli

2023

Invited talk in the AMS Special Session "Excursions in Arithmetic Geometry" at the Joint Mathematics Meetings in Boston: K3 surfaces with group actions and derived equivalence

Simons Collaboration "Arithmetic Geometry, Number Theory, and Computation" Annual Meeting: Rationality and arithmetic

Brown Algebraic Geometry Seminar Introduction to isogenies of K3 surfaces

Michigan State University colloquium: Rationality in families

Center for Communications Research Princeton colloquium: Rationality in families

University of Connecticut colloquium: Rationality in families

International Centre for Theoretical Physics special lecture in mathematics and computation: Big data and computation in arithmetic geometry

Zoom Distinguished Colloquium Series for the Turkish Mathematical Society: Rationality criteria for hypersurfaces

Columbia Algebraic Geometry Seminar: Rationality criteria for cubic fourfolds

Western Algebraic Geometry Symposium at Washington University in St. Louis: Rationality criteria for cubic hypersurfaces

2022

Princeton Algebraic Geometry Seminar: Reduction of Brauer classes on K3 surfaces and rationality questions

Brown Algebraic Geometry Seminar: Rationality questions and reduction of Brauer classes on K3 surfaces

Center for Complex Geometry of the Institute for Basic Science (Daejeon, Korea), Algebraic Geometry Seminar: Recent progress and questions on stable rationality

Southern University of Science and Technology (Shenzhen, China), Seminar on Arithmetic Geometry and Algebraic Groups: Equivariant rationality questions

Banff International Research Station workshop "Derived Categories, Arithmetic, and Reconstruction in Algebraic Geometry": Derived categories and rational points

2022 Global Korean Mathematical Society International Conference Public Lecture: Big data and computation in arithmetic geometry

Simons Foundation "Conference on Higher Dimensional Geometry": Derived equivalence, rational points, and automorphisms of K3 surfaces

Nagoya University conference 'Rationality, Moduli Spaces, and Related Topics': Derived equivalence, rational points, and automorphisms of K3 surfaces

2021

AGNES goes to school: Rationality criteria for complex varieties

Zoom Algebraic Geometry Seminar: Rationality of even-dimensional intersections of two real quadrics

"Recent Developments in Algebraic Geometry, Arithmetic and Dynamics" at the Institute for Mathematical Sciences of the National University of Singapore: Rationality constructions over non-closed fields

"Algebraic Groups and Algebraic Geometry: In honor of Zinovy Reichstein's 60th Birthday": Equivariant rationality: invariants and constructions

2020

Invited talk in the AMS Special Session "Algebraic Cycles in Arithmetic and Geometry" at the Joint Mathematics Meetings in Denver: Cycle class maps and birational invariants

Fudan-SCMS Algebraic Geometry Seminar: Rationality in families

Iskovskikh Seminar, Steklov Mathematical Institute: Symbols, birational geometry, and computations

Stanford Algebraic Geometry Seminar: Symbols, birational geometry, and computations

Brown Algebra Seminar: Birational invariants and modular forms

"Hodge Theory and Rationality" at the University of Miami: Rationality for threefold over non-closed fields; Loci of Rational Varieties

Rice colloquium: Group actions, symbols, and modular forms

Warwick Algebraic Geometry seminar: Group actions, symbols, and modular forms

2019

"Rationality of Algebraic Varieties" conference in Schiermonnikoog, The Netherlands: Complete intersections of quadrics and rationality

"Algebraic Geometry, Representation theory and Mathematical Physics" conference at the Center of Mathematical Sciences and Applications of Harvard University: Rationality for geometrically rational threefolds

MSRI workshop "Recent Progress in Moduli Theory": Rationality of geometrically rational threefolds

"Ideals, Varieties, Applications (Celebrating the Influence of David Cox)" conference at Amherst College: Parametrizing complete intersections of quadrics

"Discrete Groups and Moduli" conference at Nagoya University: Moduli of rational threefolds

2018

Rutgers University colloquium: Rationality in families

ICERM workshop 'Birational geometry and arithmetic': Rationality constructions for cubic hypersurfaces

"A Tale of Algebra and Geometry - A conference to celebrate Angelo Vistoli's 60th birthday" at the University of Pisa: Stable rationality and root stacks

Oberwolfach meeting "Classical Algebraic Geometry": Stable rationality and root stacks

Banff meeting "Moduli Spaces: Birational Geometry and Wall Crossings": Complete intersections of three quadrics and rationality

2017

Distinguished Lecture Series at Boston College: Parametrizing solutions to equations; Criteria for rationality; Rationality and irrationality in families

Abel Symposium "Geometry of Moduli" in Svolvær, Norway: Rationality in families

Simons Foundation conference "Birational Geometry": Rationality in families

Brown Algebra Seminar: Stable rationality in families of threefolds

Oberwolfach workshop "Algebraic Geometry: Birational Classification, Derived Categories, and Moduli Spaces": Stable rationality in families of threefolds

2016

Wesleyan Colloquium: New perspectives on obstruction to rationality

Brandeis-Harvard-MIT-Northeastern Colloquium (at Brandeis): Rationality of cubic hypersurfaces

Joint Columbia-CUNY-NYU Number Theory Seminar (at CUNY Graduate Center): Failure of stable rationality of quadric bundles

Brown Colloquium: Rationality and irrationality in families

Oberwolfach workshop "Classical algebraic geometry": Rationality and irrationality in families

"Arithmetic Algebraic Geometry" conference at NYU: New examples of rational cubic fourfolds

ICERM workshop "Cycles on Moduli Spaces, Geometric Invariant Theory, and Dynamics": Minicourse on Invariant theory and moduli of pointed curves

'Derived categories and Chow groups of hyperkaehler and Calabi-Yau varieties' workshop at the Simons Center for Geometry and Physics: Cubic fourfolds, K3 surfaces, and derived equivalences

2015

Northwestern Colloquium: Fibrations in rational surfaces and their sections

Tulane Colloquium: Fibrations in rational surfaces and their sections

Courant Institute Colloquium: Fibrations in rational surfaces and their sections

Brown Colloquium: Fibrations in rational surfaces and their sections

Boston College/Northeastern Algebraic Geometry Seminar: Failure of stable rationality for conic bundles

Stony Brook Algebraic Geometry Seminar: Failure of stable rationality for conic bundles

2014

Harvard/MIT Algebraic Geometry Seminar: Families of fibrations of del Pezzo surfaces

Boston College Number Theory and Algebraic Geometry seminar: K3 surfaces over local fields and derived equivalence

Midwest Algebraic Geometry Graduate Conference Plenary Lecture/Colloquium, University of Illinois at Chicago: Projective Embeddings of Holomorphic Symplectic Manifolds

Yale Algebraic and Tropical Geometry: Arithmetic of K3 surfaces and derived equivalence

Columbia Algebraic Geometry Seminar: Mori cones for holomorphic symplectic manifolds

Western Algebraic Geometry Seminar Mendebaldeko Lecture, University of Colorado Boulder: Rational curves on holomorphic symplectic varieties

"K3 surfaces and their moduli" at Schiermonnikoog, the Netherlands: Rational points of K3 surfaces and derived equivalence

Oberwolfach workshop "Classical algebraic geometry": Rational points of K3 surfaces and derived equivalence

"Seoul ICM 2014 Satellite Conference on Algebraic and Complex Geometry" at Daejeon, Korea: Families of fibrations of del Pezzo surfaces

University of Michigan at Ann Arbor Colloquium: Projective embeddings of holomorphic symplectic manifolds; Algebraic Geometry seminar: Families of fibrations of del Pezzo surfaces

Berkeley Commutative Algebra and Algebraic Geometry seminar: Families of fibrations of del Pezzo surfaces

2013

Oberwolfach workshop "Moduli spaces": Fibrations in quartic del Pezzo surfaces

Berkeley Colloquium: Rational curves on symplectic varieties

Stanford Algebraic Geometry seminar: K3 surfaces, level structure, and rational points

Invited address for the American Mathematical Society Spring Western Sectional meeting in Boulder, Colorado: Rational curves on symplectic varieties

Development of Moduli Theory conference at RIMS Kyoto: del Pezzo fibrations and K3 surfaces

Rational Points, Rational Curves, and Entire Holomorphic Curves on Projective Varieties conference at the Centre de Recherches Mathématiques, Montreal: del Pezzo fibrations and K3 surfaces

Georgia Algebraic Geometry Symposium at Athena, Georgia: Moduli of quartic del Pezzo surfaces and classification of fibrations

2012

Stony Brook University Colloquium: Arithmetic of K3 surfaces

AGNES (Algebraic Geometry, Northeastern Series) workshop at University of Massachusetts at Amherst: Families of quartic del Pezzo surfaces

Northwestern University Colloquium: Rational points on K3 surfaces

Zurich mathematical colloquium, University of Zurich: Fibrations in rational surfaces and their sections

Oberwolfach workshop "Classical algebraic geometry": Geometric methods for descent on K3 surfaces

Abel Prize Seminar, honoring the contributions of John Tate: The enduring power of Tate's conjecture

American Institute of Mathematics workshop "Log minimal model program for moduli spaces": kick-off presentation

2011

University of British Columbia Colloquium: Arithmetic of K3 surfaces
Geometry Seminar: Birational geometry of holomorphic symplectic varieties

Show-Me Algebraic Geometry Meeting at the University of Missouri at Columbia: Families of quartic del Pezzo surfaces

Ramification in Algebra and Geometry at Emory conference: Families of quartic del Pezzo surfaces

Focused Research Group Workshop on Holomorphic symplectic varieties at the Courant Institute, New York University: Hodge classes in the cohomology of Kummer fourfolds

A Celebration of Algebraic Geometry (Joe Harris 60th birthday conference), Harvard University: Families of quartic del Pezzo surfaces

2010

University of Houston Complex geometry seminar: Birational geometry of holomorphic symplectic varieties

Rice University School Mathematics Project Colloquium: Projective Geometry, Finite and Infinite

five hours of lectures at the summer school "Aspects arithmétiques des courbes rationnelles" at the Institut Fourier, University of Grenoble: Rational curves on K3 surfaces

Oberwolfach meeting "Classical Algebraic Geometry": Cohomology of generalized Kummer varieties and Lagrangian Planes in Holomorphic Symplectic Varieties

Complex Algebraic Geometry conference at the Centre Emile Borel - Institut Henri Poincaré (Paris): Constructing Rational Curves on K3 surfaces

Texas A&M Geometry seminar: Lagrangian planes on holomorphic symplectic varieties

"Compact moduli and vector bundles" at the University of Georgia, Athens: Lagrangian planes on holomorphic symplectic varieties

2009

Stanford Colloquium: Approximation and density results for varieties of low degree

MSRI workshop on Modern Moduli: Rational curves on K3 surfaces and their higher-dimensional analogs

University of North Carolina at Chapel Hill Algebraic Geometry Seminar: Rational curves on K3 surfaces; Colloquium: Approximation and density results for varieties of low degree

"Classification of Algebraic Varieties" at Schiermonnikoog, The Netherlands: Twisted stable varieties

MSRI program in algebraic geometry Closing Lectures: Rational points of varieties over function fields

Columbia University conference "Spaces of curves and their interaction with diophantine problems": Rational curves on K3 surfaces

Presentation at Rice University School Mathematics Project Mathematics Leadership Institute: Hilbert's Tenth Problem or Undecidable Problems in Algebra

American Institute of Mathematics workshop "Rational curves and $\mathbb{A}^1$ homotopy": Introduction to rationally connected varieties

Western Algebraic Geometry Symposium at UCLA: Birational geometry of holomorphic symplectic varieties

2008

Emory University Colloquium: Approximation results for varieties of low degree

University of Illinois at Chicago: Algebraic Geometry Seminar: Density of integral points over function fields

Special session in Birational Algebraic Geometry at the AMS sectional meeting in Bloomington Indiana: Flops and ample cones of holomorphic symplectic fourfolds

Princeton Algebraic Geometry Seminar: Towards a canonical model for the moduli space of curves

École Normale Supérieure Séminaire 'Birational geometry': Birational models of moduli spaces and geometric invariant theory

Université Louis Pasteur Strasbourg, Etats de la Recherche 2008 de la Société Mathématique de France "Variétés rationnellement connexes: aspects géométriques et arithmétiques": Minicourse on Weak approximation over function fields

Oberwolfach meeting in Classical Algebraic Geometry: Rational curves on holomorphic symplectic varieties

De Giorgi Center at the Scuola Normale Superiore in Pisa, Italy, "Aspects of Moduli" conference: Birational models of moduli spaces and geometric invariant theory

University of Michigan at Ann Arbor Colloquium: Approximation results for varieties of low degree; Student seminar: What is ..... a K3 surface?; Algebraic geometry seminar: Rational curves on holomorphic symplectic varieties

University of Arizona at Tucson Colloquium: Approximation and density results for varieties of low degree

2007

University of Georgia Algebraic Geometry Seminar: Towards a canonical model for the moduli space of curves

University of Georgia Colloquium: Approximation results for varieties of low degree

University of Texas at Austin GADGET/Geometry Seminar: Rational points on K3 surfaces over function fields

CalTech Algebraic Geometry Seminar: Approximation for rationally connected varieties over function fields

of curves

École Normale Supérieure Séminaire 'Géométrie et Groupes': Towards a canonical model for the moduli space of curves

Institut de Mathématiques de Jussieu Séminaire de géométrie algébrique: Rational points on K3 surfaces over function fields

Rice University School Mathematics Project, Mathematics Leadership Institute: Eccentricity, an algebraic geometer's approach to conic sections

NATO Advanced Studies Institute 'Geometry over finite fields', University of Göttingen: K3 surfaces

Max-Planck-Institut für Mathematik, Bonn: Flops and ample cones of holomorphic symplectic fourfolds

Texas A&M College Station Geometry Seminar: Ample divisors on the moduli space of stable pointed rational curves and its contractions

Society for the Advancement of Chicano and Native American Scientists annual meeting in Kansas City: MSRI Workshop on Modern Mathematics–Finding rational curves through prescribed points; Undergraduate Mini-Course–Calculus of analytic critical points

SUNY Stony Brook Algebra, Geometry and Physics Seminar: Flops and ample cones of holomorphic symplectic fourfolds

Harvard/MIT Algebraic Geometry Seminar: Density of integral points over function fields

2006

Introductory Workshop for "Rational and Integral Points on Higher-Dimensional Varieties" at MSRI, Berkeley: Rationally connected varieties; Potential density of rational points

Berkeley Algebraic Geometry Seminar: Compact moduli spaces for surfaces of general type

U.T. Austin Geometry Seminar: Sections of rationally connected fibrations through prescribed points

Rice Undergraduate Mathematics Conference on Algebraic Geometry: Introduction to algebraic geometry and applications

Texas Geometry and Topology Conference, University of Houston: Compact moduli spaces for surfaces of general type

Géométrie Algébrique en Liberté at Bedlewo, Poland: Potential density (lecture series)

"Recent Developments in Higher Dimensional Algebraic Geometry" at Johns Hopkins University: Towards a canonical model for the moduli space of curves

Oberwolfach meeting in Classical Algebraic Geometry: Approximation for rationally connected varieties

Clay summer school on 'Arithmetic Geometry' in Göttingen: Rational surfaces over algebraically closed fields; Effective cones of rational surfaces; Rational surfaces over non-closed fields; Singular Del Pezzo surfaces; Cox rings and universal torsors (lecture series)

University of Hannover Seminar: Rational points on K3 surfaces over function fields

Harvard/MIT Algebraic Geometry Seminar: Towards a canonical model for the moduli space of curves

Princeton Algebraic Geometry Seminar: Approximation for rationally connected varieties over function fields of curves

International Conference in Geometry, Chinese University of Hong Kong: Sections of rationally connected fibrations through prescribed points

Workshop on Geometry, Chinese University of Hong Kong: Towards a canonical model for the moduli space of curves

2005

Texas A&M Geometry Seminar: Sections of rationally connected fibrations through prescribed points

Séminaire d'Arithmétique et de Géométrie Algébrique, Université Paris-Sud: Moduli spaces of weighted pointed stable curves

École Normale Supérieure Séminaire "Variétés rationnelles": Weak approximation for rationally connected varieties over function fields

Rice Colloquium: Interpolation in algebraic geometry

University of Hannover: Towards a canonical model for the moduli space of curves

Algebraic Geometry Boot Camp in Seattle: Density of Rational Points

AMS Summer Institute in Algebraic Geometry: Weak approximation for rationally connected varieties over function fields of curves; Density of rational points on K3 surfaces

Rice Department of Computational and Applied Mathematics Colloquium: Interpolation problems in algebraic geometry

MIT/Harvard Algebraic Geometry Seminar: Rational points of K3 surfaces over function fields

University of Miami Winter School "Algebraic, Symplectic and Arithmetic Geometry": Weak approximation for rationally connected varieties over function fields of curves

2004

Brown University Geometry Seminar: Towards a canonical model for the moduli space of curves

Conference 'Diophantine Geometry' at the Mathematisches Institut, Göttingen: Equations of universal torsors and Cox rings I,II

Oberwolfach meeting in Classical Algebraic Geometry: Towards a canonical model for the moduli space of curves

Informal talk at American Institute of Mathematics workshop on Compact Moduli Spaces and Birational Geometry: Putting a twist on stable varieties

2003

Texas Geometry and Topology Conference, University of Houston: Flipping the moduli space of curves

Berkeley-Stanford Joint Algebraic Geometry Seminar: Towards a canonical model for the moduli space of curves

U.T. Austin Geometry Seminar: Towards a canonical model for the moduli space of curves

Chinese University of Hong Kong, Institute of Mathematical Sciences: Pointed rational curves and branched coverings (four expository lectures)

Australia National University, Special Year on Algebraic Geometry and Topology, Minimal Models Activity: Towards a canonical model for the moduli space of curves

U.T. Austin Algebra Seminar: Equations of universal torsors and Cox rings

Pacific Northwest Algebraic Geometry Seminar, Bellingham, Washington: Towards a canonical model for the moduli space of curves

Texas Christian University Colloquium: Compactifications of the moduli space of curves: old and new

Columbia University Algebraic Geometry Seminar: Towards a canonical model for the moduli space of curves

University of Miami Winter School "Geometric Methods in Algebra and Number Theory": Towards a canonical model for the moduli space of curves

2002

Princeton Algebraic Geometry Seminar: On the effective cones of moduli spaces

SUNY Buffalo Colloquium: Rationality in algebraic geometry

University of Washington Colloquium: Density of rational points on K3 surfaces

ABC-KLM Network, Cambridge University: Moduli spaces of curves and the minimal model program–On the effective cone of the moduli space of curves

Oberwolfach meeting on Classical Algebraic Geometry: Moduli spaces of curves and the minimal model program–On the effective cone of the moduli space of curves

University of Pennsylvania Algebra Seminar: Flipping the moduli space of curves

Duke University Algebraic Geometry Seminar: Flipping the moduli space of curves

University of Arizona conference "Geometry and Topology of Quotients": Flipping the moduli space of curves

American Institute of Mathematics conference "Rational and integral points on higher-dimensional varieties": Equations of universal torsors; Weak approximation for function fields

2001

University of Hong Kong Workshop in Algebraic Geometry: Moduli of log surfaces and plane curve singularities

"Perspectives of Mathematical Research in China for the 21st Century" at the Chinese University of Hong Kong: Moduli spaces and the minimal model program

National University of Singapore and Japanese Society for the Promotion of Science Workshop on Algebra

"Singapore-Warwick Workshop in Geometry & Topology": Moduli spaces and the minimal model program

Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences "Higher dimensional varieties and rational points" Instructional Conference: Density of rational points on K3 surfaces and their symmetric products (three lecture series)

University of Houston Colloquium: Rational points and geometry

Pacific Institute of Mathematical Sciences Seminar in Algebraic Geometry at Western Washington University: Moduli spaces and the minimal model program

University of Washington Algebra Seminar: Elementary constructions of moduli spaces of curves

Rice University Geometry and Analysis Seminar: Compact moduli spaces for surfaces of general type

Columbia University Algebraic Geometry Seminar: Moduli spaces and the minimal model program

Harvard/MIT Algebraic Geometry Seminar: Moduli spaces and the minimal model program

2000

University of Texas at Austin Colloquium: The locus of rational cubic hypersurfaces

University of North Carolina at Chapel Hill Colloquium: The locus of rational cubic hypersurfaces

Rice University Colloquium: The locus of rational cubic hypersurfaces

University of Utah Colloquium: The locus of rational cubic hypersurfaces

University of Michigan Seminar: Ample divisors on holomorphic symplectic fourfolds

Invited talk in the Algebraic Geometry Session at AMS meeting in South Bend, Indiana: Moduli spaces of weighted pairs

Invited talk in Singularities Session at AMS meeting in South Bend, Indiana: Simple plane curve singularities and log canonical thresholds

Hong Kong University of Science and Technology Geometry Seminar: Moduli of weighted pairs

National Center for Theoretical Sciences at Tsinghua University, Hsinchu Taiwan: Moduli of Weighted pairs (lecture series)

Chinese University of Hong Kong Complex Geometry Seminar: Cubic fourfolds, K3 surfaces, rationality, and unirationality (three lectures)

Chinese University of Hong Kong Colloquium: Rational points on algebraic surfaces

Hua Loo-Keng Memorial Conference in Beijing: Birational transformations of moduli spaces of weighted pairs

1999

University of Illinois at Chicago Seminar: Equivariant Compactifications of Vector Groups

Institut Henri Poincaré–Centre Émile Borel, Diophantine Geometry Program: The geometry of equivariant

compactifications of the additive group

UC Santa Barbara Seminar: Equivariant compactifications of the additive group

Harvard Algebraic Geometry Seminar: Moduli of stable log surfaces

MIT Algebraic Geometry Seminar: Equivariant compactifications of the additive group

University of Chicago Algebraic Geometry Seminar: Equivariant compactifications of the additive group

Western Algebraic Geometry Seminar at the University of Utah: Limits of plane curves and moduli of log surfaces

AMS meeting at Austin Texas: Rational curves on holomorphic symplectic manifolds, with applications to rational points and rationality problems

University of Texas at Austin Geometry Seminar: Ample divisors on holomorphic symplectic fourfolds

Luminy Conference "Points rationnels des variétés algébriques": Rational curves on holomorphic symplectic manifolds, with applications to rational points and rationality problems

University of Pennsylvania Algebra Seminar: Geometry and arithmetic of symmetric products of K3 surfaces

Princeton Algebraic Geometry Seminar: Ample divisors on holomorphic symplectic fourfolds

Northwestern Seminar: Rational points on symmetric products of K3 surfaces

Harvard/MIT Algebraic Geometry Seminar: Ample divisors on holomorphic symplectic fourfolds

1998

University of Chicago Algebraic Geometry Seminar: Stable limits of plane curves

University of Illinois at Chicago Seminar: Limiting plane curves

Purdue University: Rational cubic fourfolds (lecture series)

University of Minnesota Seminar: Rational cubic fourfolds

Oberwolfach meeting 'Classical Algebraic Geometry': Limits of plane curves and the minimal model program

National University of Singapore Seminar: Limits of plane curves and the minimal model program Limits of plane curves and stable log surfaces

1997

Institut Mittag Leffler Colloquium: Cubic fourfolds and rationality

University of Illinois at Chicago Seminar: Cubic fourfolds and rationality

Midwest Algebraic Geometry Conference, Notre Dame: Limiting plane curves and the minimal model program

University of Missouri at Columbia, Commutative algebra/Algebraic Geometry Seminar: Rational cubic fourfolds

Boston University Algebra Seminar: Rational cubic fourfolds

Harvard Algebraic Geometry Seminar: Limiting plane curves and the minimal model program

Northwestern Algebraic Geometry Seminar: Limiting plane curves and the minimal model program

1996

University of Chicago Algebraic Geometry Seminar: Geography of cubic fourfolds

Columbia Algebraic Geometry Seminar: Geography of cubic fourfolds

University of Chicago Algebraic Geometry Seminar: Limiting plane curves

1995

Harvard Algebraic Geometry Seminar: Correlation for surfaces of general type

AMS Summer Conference in Algebraic Geometry, Santa Cruz: Correlation for surfaces of general type

Harvard Algebraic Geometry Seminar: Geography of cubic fourfolds

UCLA Algebraic Geometry Seminar: Geography of cubic fourfolds