CURRICULUM VITAE

TYLER J. JARVIS

Education

Ph.D: 1994. Princeton University, mathematics
M.A: 1992. Princeton University, mathematics
M.S: 1990. Brigham Young University, mathematics
B.S: 1989. Brigham Young University, mathematics, summa cum laude

Academic Experience

2006–present: Professor, Brigham Young University
2012–2013: Visiting Scholar, University of Utah
2010: Visiting Scholar, Max-Planck-Institut für Mathematik, Bonn, Germany
2007: Visiting Scholar, Mittag-Leffler Institute, Djursholm, Sweden
2001–2006: Associate Professor, Brigham Young University
2001–2002: Visiting Scholar, Boston University
1996–2001: Assistant Professor, Brigham Young University
1994–1996: Assistant Professor, Mississippi State University

Administrative Experience

2016–Present: Director, BYU Applied and Computational Mathematics Emphasis.
2013–2016: Cofounder and Codirector, BYU Applied and Computational Mathematics Emphasis.
2006–2017: Cofounder and Codirector, BYU–NSF Center for Undergraduate Research in Mathematics.
2013–2014: Vice President, Board of Directors, Utah-Idaho Council on Problem Gambling.
2006–2012: Department Chair, Brigham Young University Department of Mathematics.
1996–2007: Member, Board of Directors, Meyer and Liechty Corporation.
2005–2006: Chair, Rock Canyon School Community Council (elected office).
1999–2006: Director of Graduate Studies, Brigham Young University, Department of Mathematics.
2000: Founding Director, BYU Summer Mathematics Institute.

University and Professional Committee Work

2017–2019: Mathematical Association of America, Committee on Faculty and Departments
2018: Principal organizer, International Workshop *Crossing the Walls in Enumerative Geometry*
2008–2017: Mathematical Association of America, Committee on the Status of the Profession
2015–2016: University Search Committee for Dean of Undergraduate Education
2009–2015: University Student Ratings Task Force
2010–2012: University Department Chair Coordinating Committee
2009: Principal Organizer, Clay Math Workshop *Geometry and Physics of the Laudau-Ginzburg Model*
2008–2009: Mathematics Steering Committee, Utah State Office of Education
2003: Coorganizer, AMS Conference Session, *Gromov-Witten Theory of Spin Curves and Orbifolds*

Awards Received

2019: Award for Distinguished Service. College of Physical and Mathematical Sciences, Brigham Young University

2016: Karl G. Maeser Excellence in Teaching Award. Brigham Young University

2016: Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching of Mathematics, Mathematical Association of America (Each year 3 recipients are chosen from approximately 20,000 members)

2015: Mathematics Program that Makes a Difference, American Mathematical Society, award for the BYU–NSF Center for Undergraduate Research in Mathematics, which I codirected. (At most two programs are selected nationally each year.)

2013: Award for Distinguished Teaching of Mathematics, Kenneth C. Savage Foundation

2013: Distinguished Mentoring Award, Brigham Young University, Department of Mathematics

2012: Distinguished Scholarship Award, Brigham Young University, Department of Mathematics

2006: Award for Distinguished College or University Teaching of Mathematics, Mathematical Association of America, Intermountain Section.

2006: Award for Outstanding Teaching, College of Physical and Mathematical Sciences, Brigham Young University

1995–1998: Faculty Early Career Development Award (NSF CAREER), National Science Foundation

1990–1993: National Defense Science and Engineering Graduate Fellow

1989: Orson Pratt Prize in Mathematics, Brigham Young University

1984–1989: Spencer W. Kimball Scholar, Brigham Young University

External Funding Received (Funded every year since my PhD)

2016–2020: National Science Foundation DMS-1564502, "Focused Research Group: Crossing the Walls in Enumerative Geometry." Collaborative project with the University of Michigan, Columbia, MIT, and Stanford.

2013–2017: National Science Foundation DUE-1323785, "TUES: A New Curriculum in Applied and Computational Mathematics."

2012–2017: National Science Foundation DMS-1148695: "Center for Mentoring Undergraduate Research in Mathematics."

2010–2012: National Security Agency H98230-10-1-0181: "Group Actions, Orbicurves, and Topological Field Theory."

2006–2010: National Science Foundation DMS-0636648: "Center for Mentoring Undergraduate Research in Mathematics."

2006–2009: National Science Foundation DMS-0605155: "Stringy Invariants, Orbicurves, and Topological Field Theory."

2001–2005: National Science Foundation DMS-0105788: "Higher Spin Curves and Cohomological Field Theories."

1998–2000: National Security Agency MDA904-99-1-0039: "Moduli of Higher Spin Curves."

1995–1998: National Science Foundation, Early Career Development Award (NSF CAREER) DMS-9501617: "Moduli of Generalized Spin Curves; Class Size and Calculus Learning."

Peer-reviewed Research Articles (946 total pages)

(1) Francis, A., Jarvis, T. J., & Priddis, N. A brief survey of FJRW theory. *Advanced Studies in Pure Mathematics.* **83** (2019), 19–53.

(2) Fan, H. J., Jarvis, T. J., & Ruan, Y. A Mathematical Theory of the Gauged Linear Sigma Model. *Geometry and Topology.* **22** (2018), 235–303.
(3) Fan, H. J., Jarvis, T. J., & Ruan, Y. The Moduli Space in the Gauged Linear Sigma Model. *Chinese Annals of Mathematics. Series B. Special Issue on Nonabelian Gauged Linear Sigma Models.* **38B** no. 4 (2017), 913–936.
(4) Edidin, D., Jarvis, T. J., & Kimura, T., Chern Classes and Compatible Power Operations in Inertial K-theory. *Annals of K-Theory.* **2** no. 1 (2017), 73–130.
(5) Fan, H. J., Francis, A., Jarvis, T. J., Merrell, E. & Ruan, Y. Proof of Witten's D_4 Integrable Hierarchies Conjecture. *Chinese Annals of Math. series B* **37** (2016) no. 2, 175–192.
(6) Edidin, D., Jarvis, T. J., & Kimura, T., A Plethora of Inertial Products. *Annals of K-Theory* **1** (2016) no. 1, 85–108.
(7) Fan, H. J., Jarvis, T. J., & Ruan, Y. The Witten Equation, Mirror Symmetry, and Quantum Singularity Theory. *Annals of Mathematics* **178** (2013), 1–106.
(8) Francis, A., Jarvis, T. J., Johnson, J. D., Suggs, R., Landau-Ginzburg Mirror Symmetry for Orbifolded Frobenius Algebras. *Proceedings of Symposia in Pure Mathematics.* **85** (2012), 333–353.
(9) Jarvis, T. J., Lang, W. E., and Ricks, J. R. Integral Models of Extremal Rational Elliptic Surfaces. *Communications in Algebra* **40**:10 (2012), 3867–3883.
(10) Fan, H. J., Jarvis, T. J., & Ruan, Y. Quantum Singularity Theory for A_{r-1} and r-Spin Theory. *Annales de l'Institut Fourier.* **61** no. 7 (2011), 2781–2802.
(11) Edidin, D., Jarvis, T. J., & Kimura, T. Logarithmic Trace and Orbifold Products. *Duke Mathematical Journal.* **153** no. 3 (2010), 427–473.
(12) Fan, H. J., Jarvis, T. J., & Ruan, Y. Geometry and Analysis of Spin Equations. *Communications on Pure and Applied Mathematics.* **61**, no. 6 (2008), 745–788.
(13) Jarvis, T. J., Kaufmann, R., & Kimura, T. Stringy K-theory and the Chern Character. *Inventiones Mathematicae.* **168**, no. 1 (2007), 23–81.
(14) Jarvis, T. J., Lang, W. E., Petrosyan, N., Rimmasch, G., Rogers, J., & Summers, E. D. Classification of Singular Fibres on Rational Elliptic Surfaces in Characteristic Three. *Communications in Algebra*, **33** (2005), 4533–4566.
(15) Jarvis, T. J., Kimura, T. & Vaintrob, A. The Moduli Space of Stable r-Spin Maps and Quantum Cohomology. *Comm. in Mathematical Physics.* **259** no. 3 (2005), 511–543.
(16) Jarvis, T. J., Kaufmann, R., & Kimura, T. Pointed Admissible G-covers and G-equivariant Cohomological Field Theories. *Compositio Mathematica,* **141** (2005), 926–978.
(17) Jarvis, T. J. & Tanton, J. The Hairy Ball Theorem via Sperner's Lemma. *American Mathematical Monthly,* **111** no. 7 (2004), 599–603.
(18) Abramovich, D. & Jarvis, T. J. Moduli of Twisted Spin Curves. *Proceedings of the American Mathematical Society,* **131** no. 3 (2003), 685–699.
(19) Jarvis, T. J. & Kimura, T. Orbifold quantum cohomology of the Classifying Space of a Finite Group. In A. Adem, J. Morava, & Y. Ruan (Eds.). *Orbifolds in Mathematics and Physics (Madison, WI, 2001)*, Contemporary Mathematics, **310** (2002), 123–134. Providence, R.I.: American Mathematical Society.
(20) Jarvis, T. J., Kimura, T. & Vaintrob, A. Gravitational Descendants and the Moduli Space of Higher Spin Curves. In E. Previato (Ed.), *Advances in Algebraic Geometry Motivated by Physics.* Contemporary Mathematics **276** (2001), 167–177. Providence, R.I.: American Mathematical Society.
(21) Jarvis, T. J. Picard Group of the Moduli of Higher Spin Curves. *New York Journal of Mathematics,* **7** (2001), 23–47.
(22) Jarvis, T. J., Kimura, T. & Vaintrob, A. Moduli Spaces of Higher Spin Curves and Integrable Hierarchies. *Compositio Mathematica,* **126** no. 2 (2001), 157–212.

(23) Jarvis, T. J., Kimura, T. & Vaintrob, A. Tensor Products of Frobenius manifolds and Moduli Spaces of Higher Spin Curves. In G. Dito & D. Sternheimer (Eds.), *Conferénce de Moshé Flato 1999*, vol. 2 (2000), (145–166). Dordrecht, Netherlands: Kluwer.
(24) Jarvis, T. J. Geometry of the Moduli of Higher Spin Curves. *International Journal of Mathematics,* **11** no. 5 (2000), 637–663.
(25) Jarvis, T. J. Compactification of the Universal Picard over the Moduli of Stable Curves. *Mathematische Zeitschrift,* **235** (2000), 123–149.
(26) Jarvis, T. J. Torsion-free Sheaves and Moduli of Generalized Spin Curves. *Compositio Mathematica,* **110** no. 3 (1998), 291–333.
(27) Barrett, W. W. & Jarvis, T. J. Spectral Properties of a Matrix of Redheffer. *Linear Algebra and Its Applications,* **162–164** (1992), 673–683.
(28) Cox, P. A., Cromar, S. & Jarvis, T. J. Underwater Pollination, Three-dimensional Search, and Pollen Morphology: Predictions from a Supercomputer Analysis. In S. Blackmore & S. H. Barnes (Eds.), *Pollen and Spores: Patterns of Diversification* (1992), 363–375. Oxford University Press.
(29) Cox, P. A., Cromar, S. & Jarvis, T. J. Underwater pollination and Three-dimensional Search: A super computer approach. In K.R. Billingsly, H.U. Brown III, & E.S. Derohanes (Eds.), *Computer Assisted Analysis and Modeling on the IBM 3090,* Vol. 2 (1991). 569–582. MIT Press.
(30) Jarvis, T. J. A Dominant Negative Eigenvalue of a Matrix of Redheffer. *Linear Algebra and Its Applications,* **142** (1990), 141–152.

Books

(31) Humpherys, J., Jarvis, T. *Foundations of Applied Mathematics Volume 2: Algorithms, Approximation, Optimization.* In press. Society for Industrial and Applied Mathematics. Philadelphia, PA. (2020). 819 pages.
(32) Humpherys, J., Jarvis, T., & Evans, E. *Foundations of Applied Mathematics Volume 1: Mathematical Analysis.* Society for Industrial and Applied Mathematics. Philadelphia, PA. (2017). 689 pages.
(33) Jarvis, T. J., Kimura, T. & Vaintrob, A. (Eds.). *Proceedings of the Conference on Gromov-Witten Theory of Spin Curves and Orbifolds*, Contemporary Mathematics, **403** (2006). American Mathematical Society, Providence, RI. 189 pages.

Other publications

(34) Charles, G.-U., et al. [including Jarvis, T. J.], Amicus Brief of Mathematicians, Law Professors, and Students. *Rucho v. Common Cause*, 588 U.S. 18–422, 18–726 (2019).
(35) Humpherys, J., Jarvis, T.J., and Evans, E. (Eds.) *Foundations of Applied Mathematics, Lab Manual for Volume 2.* `foundations-of-applied-mathematics.github.io` (2018). 219 pages.
(36) Humpherys, J., Jarvis, T.J., and Evans, E. (Eds.) *Foundations of Applied Mathematics, Lab Manual for Data Science Essentials.* `foundations-of-applied-mathematics.github.io` (2018). 227 pages.
(37) Humpherys, J., Jarvis, T.J., and Evans, E. (Eds.) *Foundations of Applied Mathematics, Lab Manual for Python Essentials.* `foundations-of-applied-mathematics.github.io` (2018). 173 pages.
(38) Humpherys, J., Jarvis, T.J., and Evans, E. (Eds.) *Foundations of Applied Mathematics, Lab Manual for Volume 1.* `foundations-of-applied-mathematics.github.io` (2017). 185 pages.
(39) Jarvis, T. J. That's how the light gets in. *BYU Magazine*, Fall 2013, 24–30.
(40) Jarvis, T. J. & Jarvis, H. B. Gambling: What are the odds? *BYU Magazine*, Spring 2001, 48–52.

(41) Jarvis, T. J. & Jarvis, H. B. Gambling. In D. Paul & G. Hatch (Eds.), *Enter to Learn.* (1999) 288–299. Brigham Young University Press.