Curriculum Vitae

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Nathan Priddis
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Professional Experience

Associate Professor, Brigham Young University, September 2022–present.

Assistant Professor, Brigham Young University, August 2016–August 2022.

Wissenschaftlicher Mitarbeiter (postdoctoral), Institut für Algebraische Geometrie, Leibniz Universität Hannover, May 2014–August 2016.

Academic Preparation

PhD Mathematics, University of Michigan, Mathematics Department, April 2014. Dissertation: *A Landau-Ginzburg/Calabi-Yau correspondence for the mirror quintic.*

MS Mathematics, Brigham Young University, Department of Mathematics, August 2009. Thesis: *Some Congruence Properties of Pell's Equation.*

B.S. Mathematics, Brigham Young University, Department of Mathematics, April 2007. Graduated *Magma Cum Laude.*

Refereed Publications

(1) *Mirror Map for Landau-Ginzburg models with nonabelian groups.* A. Clawson, D. Johnson, D. Morais, N. Priddis, C. White. *J. of Geometry and Physics*, **199** (2024), 41pp.
(2) *Three K3 surfaces with nonsymplectic automorphism of order 16.* P. Comparin, N. Priddis, A. Sarti. *Math. Nachr.*, **295** (Nov. 2022), 2104-2129.
(3) *Mirror Symmetry for K3 surfaces.* C.J. Bott, P. Comparin, N. Priddis. *Geometriae Dedicata*, **212** (2021), 21-55.
(4) *BHK mirror symmetry for K3 surfaces with non-symplectic automorphism.* P. Comparin, N. Priddis. *J. Math. Soc. Japan*, **73**, No. 2 (2021), 403-431.
(5) *Mirror Symmetry for Non-Abelian Landau-Ginzburg Models*, N. Priddis, J. Ward, M. Williams. *SIGMA Symmetry Integrability Geom. Methods Appl.* **16**, no. 059 (2020), 31 pp.

(6) *Borcea-Voisin Mirror Symmetry for Landau-Ginzburg models.* A. Francis, N. Priddis, A. Schaug. *Illinois Journal of Math.*, **63**, no. 3 (2019), 425-461.
(7) *A brief survey of FJRW theory.* A. Francis, T. Jarvis, N. Priddis. *Advanced Studies in Pure Mathematics*, **83**, (2019). 361–374.
(8) *A Landau–Ginzburg/Calabi–Yau correspondence for the mirror quintic.* N. Priddis. *Advanced Studies in Pure Mathematics*, **83**, (2019). 19–52.
(9) *When are multiples of polygonal numbers again polygonal numbers?* J.S. Chahal, M. Griffin, N. Priddis. *Hardy-Ramanujan Journal*, **41**, (2018), 58-67.
(10) *Givental-type reconstruction at a non-semisimple point.* A. Basalaev, N. Priddis. *Mich. Math Journal*, **67**, no. 2 (2018), 333–369.
(11) "Geometric Quantization and its applications to Gromov-Witten Theory." E. Clader, N. Priddis. M. Shoemaker. *B–model Gromov Witten Theory.* Clader, E., Ruan, Y. (eds.) Basel: Birkhäuser (2018).
(12) *Landau–Ginzburg/Calabi–Yau correspondence via Crepant Transformation Theorem.* Y.P. Lee, N. Priddis, M. Shoemaker. *Ann. Sci. Ècole Norm. Sup.*, **49**, no. 6 (2016), 1403–1443.
(13) *A Landau-Ginzburg/Calabi-Yau correspondence for the mirror quintic.* N. Priddis, M. Shoemaker. *Ann. Inst. Fourier*, **66**, no. 3 (2016), 1045-1091.
(14) *The mirror Symmetry of K3 surfaces with non-symplectic automorphisms of prime order.* P. Comparin, C. Lyons, N. Priddis, R. Suggs (Webb). *Adv. Theor. Math. Phys.*, **18**, no. 6 (2014), 1335-1368.
(15) *Some congruence properties of the Pell equation.* J.S. Chahal, N. Priddis. *Ann. Sci. Math. Quebec*, **35**, no. 2 (2011), 175-184.
(16) *FJRW-rings and mirror symmetry.* P. Acosta, N. Bergin, M. Krawitz, N. Priddis, H. Rathnakumara) *Comm. Math. Phys.*, **296**, no. 1 (2010), 145-174.

Submitted

(17) *Wall crossing and the Fourier-Mukai transform for Grassmann flops*, N. Priddis, M. Shoemaker, Y. Wen. *SIGMA*. Submitted April 2024.
(18) *Seiberg-like duality for resolutions of determinantal varieties*, N. Priddis, M. Shoemaker, Y. Wen. *Crelle*. Submitted June 2024.
(19) *On Divisorial (i) classes.* O. Dumitrescu, N. Priddis. *J. of Algebra*. Submitted June 2021.

Other Publications

Book, Edited

(1) *Proceedings of the Conference on Crossing the Walls in Enumerative Geometry.* Jarvis, T., Priddis, N. (eds.) Providence, RI: AMS (2020).

Students Supervised

Graduate Students

(1) Elizabeth Melville: Masters student, Nov 2020–April 2024, *K3 surfaces with nonsymplectic automorphisms: Uniqueness.*

(2) Kyle Niendorf: Masters student, May 2020–July 2022, *Mirror symmetry for nonabelian LG models and Frobenius algebras.*
(3) Joshua Fullwood: Masters student, Jan 2020–Aug 2021, *Invariant lattices.*
(4) Matt Williams: Masters student, Jan 2018–Aug 2019, *Mirror symmetry for nonabelian LG models.* (2019).
-Coauthor on Publication 5.
(5) C.J. Bott: Masters student, Sep 2016–Aug 2018: *Mirror Symmetry for K3 Surfaces with Non-symplectic Automorphism.* (2018).
-Coauthor on Publication 3.
-Winner of his section in Student Research Conference 2018: *Mirror symmetry for K3 surfaces with nonsymplectic automorphisms.*

Undergraduate Students

(1) Isaac Fisher, Sep 2024–present.
(2) Cameron Woffinden, Sep 2024–present.
(3) Caleb Crowther, Sep 2024–present.
(4) Abram Magleby, Sep 2024–present.
(5) Archer Clayton, Sep 2024–present.
(6) Michael Saunders, Sep 2024–present.
(7) Ryan Barrus, Sep 2023–present.
(8) Alexis Barrett, Sep 2023–April 2024.
(9) Tristen Carrig, Jan 2021–April 2022.
(10) Collin Free, Dec 2020–April 2022.
(11) Spencer Taylor, Oct 2020–April 2022.
(12) Caroline Bouwhuis, Jan 2020–April 2022.
-Coauthor on Publication 1.
(13) Duncan Morais, Jan 2020–April 2022.
-Coauthor on Publication 1.
(14) Annabelle Richardson, Jan 2020–April 2022.
-Coauthor on Publication 1.
(15) Clara Huber, Jan 2018–Aug 2020.
(16) Kyle Niendorf, Aug 2018–May 2020.
(17) Erik Hanneson, Aug 2018–Apr 2019.
(18) Kirsti Stahly, Jan 2018–May 2018.
(19) Joseph Ward, Oct 2016–May 2018.
-Coauthor on Publication 5.
(20) Jacob Newman, Oct. 2016–April 2017.

Invited Presentations

- Caltech/USC Joint Algebra and Geometry Seminar, Caltech University, Pasadena, CA, 2023. *Mirror Symmetry for Nonabelian LG models.*
- Geometry Seminar, Politecnico di Milano, Milan, Italy, 2023. *Mirror Symmetry for nonabelian Lanau-Ginzburg models.*
- Séminaire de Géométrie Algébrique, Instutute of Mathematics de Jussieu, Paris, France, 2023. *BHK mirror symmetry.*

- Oberseminar zur Algebra und Zahlentheorie, University of Augsburg Mathematics Institute, Augsburg, Germany, 2023. *Mirror Symmetry for nonabelian Lanau-Ginzburg models.*
- BYU Theoretical Physics Seminar, Provo, 2022. *An introduction to Enumerative Geometry.*
- Second ECOS-ANID workshop in Algebraic Geometry, Virtual, 2021. *Non-symplectic automorphisms of K3 Surfaces: Uniqueness and Invariant lattices.*
- AMS Special Session on Cohomological Field Theories and Wall Crossing, I. JMM, Denver, CO, 2020. *Mirror Symmetry for nonabelian Landau-Ginzburg models.*
- Enumerative Geometry Seminar, Columbia University, New York City, NY, 2019. *BHK mirror symmetry and beyond.*
- Seminario di Geometria Algebrica, Polytechnic University of Milan, Milan, Italy, 2019. *BHK mirror symmetry and beyond.*
- Category theory and Applications seminar, Higher School of Economics, Moscow, Russia, 2019. *Mirror symmetry for K3 surfaces and beyond.*
- Characteristic classes and intersection theory, Higher School of Economics, Moscow, Russia, 2019. *Geometric Quantization and Applications to Gromov–Witten theory.*
- Geometry and Physics Seminar, University of Michigan, Ann Arbor, MI, 2018. *BHK mirror symmetry and variants.*
- Analysis and Geometry Seminar, Central Michigan University, Mount Pleasant, MI, 2018. *BHK mirror symmetry and beyond.*
- BIRS Workshop: Geometry and physics of quantum curves, Banff, Canada, 2018. *The Landau–Ginzburg/Calabi–Yau correspondence and gauged linear sigma models.*
- Conference: Crossing the walls in enumerative Geometry, Salt Lake City, UT, 2018. *Borcea–Voisin Mirror symmetry for LG Models.*
- Conference: Geometry at the Frontier, Universidad de La Frontera, Pucón, Chile, 2017. *Mirror symmetry for K3 surfaces.*
- Mirror Symmetry Conference for Young Researchers, University of Michigan, Ann Arbor, MI, 2017. *Mirror symmetry for K3 surfaces.*
- Institut für Algebraische Geometrie Oberseminar, Leibniz Universität Hannover, Hannover, Germany, 2016. *A Landau–Ginzburg model of Borcea–Voisin mirror symmetry.*
- Institut für Algebraische Geometrie Oberseminar, Leibniz Universität Hannover, Hannover, Germany, 2015. *Mirror symmetry for K3 surfaces.*
- Conference: Modern trends in Gromov-Witten theory, Leibniz Universität Hannover, Hannover, Germany, 2014. *Landau–Ginzburg/Calabi–Yau correspondence and the Crepant Transformation Conjecture.*
- ICM Satellite conference: Geometry and Physics of Gauged Linear Sigma Model and Its Related Topics, KIAS, Seoul, South Korea, 2014. *Landau–Ginzburg/Calabi–Yau Correspondence and the Crepant Transformation Conjecture.*
- Workshop: Primitive Forms and Related Subjects, IPMU, Tokyo, Japan, 2014. *A Landau–Ginzburg/Calabi–Yau correspondence for the mirror quintic.*

- Gromov–Witten Theory Seminar, University of Columbia, New York, NY, 2013. *A Landau-Ginzburg/Calabi-Yau correspondence for the mirror quintic.*
- Thematic Program on Calabi-Yau Varieties, Fields Institute, Toronto, Canada, 2013. *Geometric Quantization and Gromov-Witten theory.*
- Algebraic Geometry Seminar, University of Utah, Salt Lake City, UT, 2013. *A Landau-Ginzburg/Calabi-Yau correspondence for the mirror quintic.*
- Geometry and Physics Seminar, University of Michigan, Ann Arbor, MI, 2013. *A Landau-Ginzburg/Calabi-Yau correspondence for the mirror quintic.*
- IAS Program on Gromov-Witten Theory and Quantization, HKUST, Hong Kong, China, 2013. *Geometric Quantization and its applications to Gromov-Witten Theory.* This was a two-week course.
- Geometry and Physics Seminar, University of Michigan, Ann Arbor, MI, 2012. *The mirror Symmetry of K3 surfaces with non-symplectic automorphisms of prime order.*

Conferences Organized

- *Around Symmetries of K3 surfaces*, BIRS conference at Banff with co-organizers Valery Alexeev, Paola Comparin, Jimmy Dillies, and Alessandra Sarti. Banff, February 2023.
- *Crossing the walls in Enumerative Geometry*, NSF funded with co-organizers Tyler Jarvis and Yongbin Ruan. Salt Lake City, UT, May 2018.
- *LG4 conference: On the Landau–Ginzburg model*, NSF funded with co-organizers Emily Clader, Yongbin Ruan, Mark Shoemaker, Yefeng Shen. University of Michigan, March 2013.
- *RTG Confernce on Mirror Symmetry*, NSF funded with co-organizers Emily Clader, Yongbin Ruan, Mark Shoemaker, Yefeng Shen. University of Michigan, February 2012.
- *RTG Conference on Givental formalism*, with co-organizers Emily Clader, Yongbin Ruan, Mark Shoemaker, Yefeng Shen. University of Michigan, December 2011.

Academic Honors, Grants, etc.

- *Distinguished Teaching Award*, Department of Mathematics, BYU, 2018.
- *Phi Eta Sigma Faculty Award*, Phi Eta Sigma Honor Society, Brigham Young University Chapter, 2017.
- *Karen Rhea Excellence in Teaching Award*, Department of Mathematics, University of Michigan, 2014.