Drew Johnson

Curriculum Vitae

Department of Mathematics, Fenton Hall
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Positions

2019-present **Postdoctoral fellow**, *ETH Zürich*, Switzerland.

2016-2018 **Postdoctoral fellow**, *The University of Oregon*, Eugene.

Education

2011–2016 **PhD, Mathematics**, *The University of Utah*, Salt Lake City.
Advisor: Aaron Bertram.
Thesis: Two enumerative problems in algebraic geometry. `http://content.lib.utah.edu/cdm/ref/collection/etd3/id/4206`

2011 **MS, Mathematics**, *Brigham Young University*, Provo.
Advisor: Tyler Jarvis
Thesis: An Algebra Isomorphism for the Landau-Ginzburg Mirror Symmetry Conjecture. `http://scholarsarchive.byu.edu/etd/2793/`

2009 **BS, Mathematics**, *Brigham Young University*, Provo.
Minor: Computer Science

Papers

Birational models of $\mathcal{M}_{2,2}$ arising as moduli of curves with nonspecial divisors, *with Alexander Polishchuk*, to appear in Advances in Geometry.
Available on the arXiv: `1807.09746`

Universal Series and Strange Duality, to appear in International Mathematics Research Notices (2018).
Available from IMRN: `https://doi.org/10.1093/imrn/rny101`

Le Potier's strange duality, quot schemes, and multiple point formulas for del Pezzo surfaces, *with Aaron Bertram and Thomas Goller*, submitted.
Available on the arXiv: `1610.04185`

Determining Tropical Hypersurfaces.
Available on the arXiv: `1509.05815`

Landau-Ginzburg Mirror Symmetry for Orbifolded Frobenius Algebras, *with Amanda Francis, Tyler Jarvis, and Rachel Suggs*, in Proceedings of Symposia in Pure Mathematics. 85 (2012), 333-353.

Isoperimetric surfaces with boundary, *with Rebecca Dorff, Gary R. Lawlor, Donald Sampson*, in Proceedings of the American Mathematical Society. 139 (2011), 4467-4473.

Other Projects

2018 **Invited Peer Reviewer**,
International Mathematics Research Notices,
Advances in Geometry.

2017 **Wrote Sage code to compute products on the moduli space of curves**.
Available for easy install from PyPI: `http://pypi.python.org/pypi/mgn`

2013 **Undergraduate research co-mentor**.
I assisted a post-doc in our department with mentoring an undergraduate researcher in a project involving the moduli space of curves

2010-2011 **Wrote code to compute FJRW invariants**.

2010-2011 **Wrote code to compute top intersections on the moduli space of curves**.
Available for easy install from PyPI `pypi.python.org/pypi/mgn`

2011 **Middle school summer math camp coach**.

2008-2009 **IMPACT undergraduate research group**.
Analyzed and compared algorithms for gas chromatography/mass spectrometry deconvolution

Talks

Universal Series and Strange Duality, *(Invited lecture) AMS Sectional Meeting: Special Section on Moduli Spaces*, Apr. 2018.

Universal Series and Strange Duality, *(Invited lecture) Workshop on Moduli Spaces of Sheaves on Surfaces*, Penn State University, Dec. 2017.

What is Tropical Geometry?, *Basic Notions Seminar*, University of Oregon, Nov. 2017.

Strange Duality, Quot Schemes, and Multiple Point Formulas, *Algebra Seminar*, University of Oregon, Oct. 2016.

Strange Duality for Del Pezzo Surfaces, *Algebraic Geometry Seminar*, University of Utah, Nov. 2014.

Determining Tropical Hypersurfaces, *Student Tropical Algebraic Geometry Seminar*, Yale University, May 2014.

Burnside's Orbit Counting Lemma, or How to Count Things, *Undergraduate and Graduate Colloquiums*, University of Utah, Oct. and Nov. 2013.

Busy Beavers and Big Numbers, *Undergraduate and Graduate Colloquiums*, University of Utah, April 2012, April 2015, Oct. 2015.

Computational Complexity, *Math Circle*, University of Utah, 2012.

Spring Research Conference, Brigham Young University, 2008-2010.
Best of section prize winner 2009 and 2010

Math Fest, Madison, Wisconsin, 2008.
MAA General Excellence Prize Winner

Fellowships

2013-2015 **NSF Research Training Grant**, *Algebraic Geometry and Topology at the University of Utah, number 1246989*, I was funded by this grant for three semesters.

2011-2012 **VIGRE vertical integration grant**, *University of Utah*, I was funded by this grant for two semesters.

Classes Taught

Fall 2018 **Integral Calculus,**
Sequences and Series, *U of O*.

Spring 2018 **Discrete Dynamical Systems**, *U of O*.

Winter 2018 **Elementary Linear Algebra II,**
Integral Calculus, *U of O*.

Fall 2017 **Elementary Linear Algebra**, *U of O*.

Winter 2017 **Integral Calculus,**
Sequences and Series, *U of O*.

Fall 2016 **Integral Calculus**, *U of O*.

Spring 2016 **Calculus I**, *U of U*.

Fall 2014 **Business Algebra**, *U of U*.

Fall 2013 **Business Algebra**, *U of U*.

Spring 2013 **Quantitative Analysis**, *U of U*.

Fall 2012 **Business Algebra**, *U of U*.

Summer 2010 **Calculus I**, *BYU*.

Winter 2010 **Calculus Recitation Section Leader**, *BYU*.

Fall 2009 **Calculus Recitation Section Leader**, *BYU*.