

- EDUCATION:** **University of British Columbia**, Vancouver, British Columbia.
Received Ph.D. in Mathematics under Jim Bryan in May, 2005.
- Tulane University**, New Orleans, Louisiana.
Received M.Sc. in Mathematics in 2001 and B.Sc. in Mathematics and Physics in 1999.
- POSITIONS:** **Harvey Mudd College**, Claremont, California.
Assistant Professor of Mathematics. July 2008 – Present.
- University of California**, Berkeley.
Visiting Assistant Professor. July 2006 – July 2008.
- University of California**, Berkeley.
NSERC Postdoctoral Fellow. June, 2005 – June 2006.
- VISITING POSITIONS:** **Institute for Pure and Applied Mathematics**, Los Angeles.
Core Researcher. March – June, 2003.
- GRANTS:** NSA H98230-11-1-0219, PI. “Enhancement of the Mathematics and Statistics Component of the 2011-2012 SACNAS Conferences.” \$100,000.
MAA Tensor-SUMMA, co-PI. 2010-2011. \$6,000.
NSF DMS-0936047, PI. “Categorical Methods in Topology and Quantum Geometry Conference.” \$23,850.
MAA Tensor-SUMMA, co-PI. 2009-2010. \$6,000.
NSF DMS-0752978, PI. “Low Dimensional Topology and Quantum Geometry Conference.” \$22,455.
NSF DMS-0640282, PI. “Conference on Geometry and Theoretical Physics.” \$15,270.
- AWARDS:** Recognition of Outstanding Teaching, UC Berkeley, Dept. of Mathematics 2007.
Graduate Teaching Award. Department of Mathematics, U. of British Columbia. 2004.
University Graduate Teaching Award Nomination. Department of Mathematics, University of British Columbia. 2003–2004.
Teaching Assistant of the Year. Tulane University, Dept. of Mathematics. 2000–2001.
- FELLOWSHIPS:** NSERC Postdoctoral Fellowship. 2005–2006.
University Graduate Fellowship. University of British Columbia. 2002–2003.
Graduate Fellowship. Tulane University. 1999–2001.
NSF Research Experience for Undergraduates. Tulane University. 1998.
- PAPERS:**
- [7] Cremona symmetry in Gromov-Witten theory. With Sam Payne. In preparation.
 - [6] Gromov-Witten Theory of $\mathbb{P}^1 \times \mathbb{P}^1 \times \mathbb{P}^1$. With Dhruv Ranganathan. <http://arxiv.org/abs/1201.4414>
 - [5] Toric symmetry of $\mathbb{C}\mathbb{P}^3$. With Dhruv Ranganathan, Paul Riggins and Ursula Whitcher. Submitted to *Compositio Math.* <http://arxiv.org/abs/1109.5157>
 - [4] On a family of K3 surfaces with S_4 symmetry. With Jacob Lewis, Daniel Moore, Dmitri Skjorshammer and Ursula Whitcher. <http://arxiv.org/abs/1103.1892>
To appear in *Proceedings of the Fields Institute*.

- [3] The local Gromov-Witten invariants of configurations of rational curves. With Chiu-Chu Melissa Liu and Marcos Mariño. *Geometry & Topology*. 10 (2006) 115-168.
- [2] The closed topological vertex via the Cremona transform. With Jim Bryan. *Journal of Algebraic Geometry*. 14(3):529-542, 2005.
- [1] An extension of a criterion for unimodality. With Jenny Alvarez, Miguel Amadis, George Boros, Victor H. Moll, Leobardo Rosales. *Electronic J. of Combinatorics*. 2001. 8#R30.pg:1-5

SERVICE:

Conference and Seminar Organization.

- Co-organizer of *Interdisciplinary Algebra: Representation Theory, Number Theory and Algebraic Combinatorics*, a scientific symposium and component of the 2011 SACNAS* National Conference. October 2011.
- Co-organizer of the 2011 HMC Mathematics Conference on *Broadening Participation in the Mathematical Sciences*, February 2011.
- Co-organizer of WAGS* Fall 2010. University of Arizona.
- Co-organizer of *Hidden Structures and Mirror Symmetries*, a scientific symposium and component of the SACNAS National Conference, October 2010.
- Co-organizer of WAGS Spring 2010. University of British Columbia.
- Co-organizer of WAGS Fall 2009. UCLA/IPAM.
<http://www.math.hmc.edu/~dk/wags/2009/>
- Founder and Organizer of SUMS, the Seminar on Underrepresentation and the Mathematical Sciences. 2008-Present.
<http://www.math.hmc.edu/~dk/sums>
- Co-organizer of *Categorical Methods in Topology and Quantum Geometry*, a scientific symposium and component of the SACNAS National Conference, October, 2009.
<http://www.math.hmc.edu/~dk/sacnas/2009/>
- Co-organizer of WAGS Spring 2006. Berkeley.
<http://math.berkeley.edu/wags>
- Co-organizer of the Berkeley-Stanford Algebraic Geometry Colloquium. 2005–2008.
<http://math.stanford.edu/ag/joint/>
- Co-organizer of *Low Dimensional Topology and Quantum Geometry*, a scientific symposium and component of the SACNAS National Conference, October 2007.
<http://www.math.berkeley.edu/~dkarp/sacnas/2007.html>
- Organizer of *Geometry and Theoretical Physics*, a scientific symposium and component of the SACNAS National Conference. October 2006.
<http://math.berkeley.edu/~dkarp/sacnas/2006.html>

*WAGS is the Western Algebraic Geometry Seminar, and was the largest regularly held algebraic geometry seminar in the United States. <http://www.wagsymposium.org>

*This was the largest gathering of minority scientists ever held in the US.

Editorial Positions:

- Co-Founding Editor of the Journal of Humanistic Mathematics
<http://www.journalofhumanisticmathematics.org>

Refereed papers for journals including:

- American Mathematical Monthly.
- Communications in Mathematical Physics.
- The European Journal of Combinatorics.

Reviewer for Math Reviews.

Written reviews for *Mathematical Review*.

HMC SERVICE:

Standing Committees

- Chair, Curriculum Committee. 2011-2012.
- Academic Affairs Committee. 2010-2011.

Special Committees

- Faculty Advisory Committee for the Teaching and Learning Building. 2011-2012.
- Strategic Vision Curriculum Implementation Committee (SVCIC). 2009-2010.

HMC Outreach and Mentorship

- Faculty Sponsor of the Claremont SACNAS Chapter and corresponding student organization.
- Multicultural Ally Program (MAP) Faculty Representative. 2009-2010.
- Summer Institute Lecturer
- Ongoing mentor of Summer Institute Students
- Ongoing faculty mentor in the HMC Mentorship Program
- Co-organizer of conference held at HMC on Broadening Participation in the Mathematical Sciences.
- Organizer of SUMS, the Seminar on Underrepresentation and the Mathematical Sciences.

Departmental Committees

- Placement Coordinator. 2010-2011, 2011-2012.
- Curriculum Committee. 2008-2010.

Postdoctoral Scholars

Supervised the research of Postdoctoral Fellow Ursula Whitcher. This research is in algebraic geometry, $K3$ surfaces and mirror symmetry. Dr. Whitcher is now Assistant Professor of Mathematics at the University of Wisconsin – Eau Claire.

Undergraduate Supervision

Current Students:

- Dhruv Ranganathan. Gromov–Witten theory of $\mathbb{P}^1 \times \mathbb{P}^1 \times \mathbb{P}^1$.

Former Students:

- Max Kutler. Group actions and invariant divisors on tropical curves. Now at U. Oregon.
- Kwang Ketcham. Group frames and partially ranked data. Joined the PhD program at U. Oregon.

- Rachel Karpman. Noether complexity of monomial ideals. Awarded an **NSF Graduate Research Fellowship**. Joined PhD program at U. Michigan.

OUTREACH:

- Member, SACNAS National Mathematics Task Force. SACNAS is the Society for Advancement of Chicanos and Native Americans in Science and is the nation's preeminent organization working against underrepresentation and gender inequities broadly speaking across the sciences.
- Co-Founder of the Pacific Alliance for Mathematical Baccalaureates, working to broaden participation in mathematics in Southern California and Hawaii.
- Ongoing organizer of Scientific Symposia at SACNAS. These have been to date the only symposia in the US centered on Gromov-Witten theory and low dimensional topology and presented to underrepresented minority audiences.
- Securer of several NSA and NSF grants supporting SACNAS and its annual National Conference.
- Founder and organizer of SUMS, the Seminar on Underrepresentation and the Mathematical Sciences.
- Undergraduate Mentor and Member of the National Alliance for Doctoral Studies in the Mathematical Sciences.
- Member, Algebra Project. The AP views mathematics as a civil right, and works to raise the floor of mathematics by increasing the minimum amount of mathematics encountered in K12 education.
- Faculty Representative to the Harvey Mudd College Multicultural Ally Program.
- Committee member for the establishment of the MSRI-Oakland Math Circle. The goal of this Circle is to build a bridge between the mathematicians affiliated with MSRI and Berkeley, and the students of Oakland, California.
- Volunteer tutoring through the Mathematical Sciences Resource Center at the University of British Columbia.
- Seminar associate at SIMU, the Summer Institute in Mathematics for Undergraduates. This NSF REU program was specifically designed for Chicana(o)/Latina(o) and Native Americans to foster and encourage academic development. Winner of a *Programs That Make a Difference* award, 2006, by the American Mathematical Society.
- Tutored inner-city New Orleans youths in Mathematics through the Tulane University Community Outreach Work Study program.

SELECTED INVITED TALKS:

AMS Western Sectional Meeting, Special Session on *Singularities and Moduli*. March 2012.
UCSD, Algebraic Geometry Seminar. November 2011.
Caltech, Algebraic Geometry Seminar. November 2011.
Claremont Consortium, ANTC Seminar. September 2011.
Claremont Consortium, ANTC Seminar. February 2011.
UCLA, Geometry Seminar. November 2010.
UPenn, Geometry and Physics Seminar. March 2010.

GEMS. March 2010.
Claremont Consortium, Algebra, Number Theory and Combinatorics Seminar. February 2009.
Cal Poly Pomona, Colloquium. December 2008.
Claremont Consortium, Algebra, Number Theory and Combinatorics Seminar. November 2008.
Loyola Marymount University, Colloquium. October 2008.
Berkeley, Conference on Representation Theory, Geometry and Combinatorics. June 2008.
Northwestern University, Geometry/Physics Seminar. May 2008.
U. British Columbia, Algebraic Geometry Seminar. March 2008.
Berkeley, Algebraic Geometry Seminar. November 2007.
Institut Henri Poincaré, Conference on Quantum Cohomology of Stacks. February 2007.
U. of Michigan, Algebraic Geometry Seminar. February 2007
Conference in Honor of Dusa McDuff. Stonybrook, October 2006.
UIUC, Algebraic Geometry Seminar. September 2006.
Berkeley, Commutative Algebra and Algebraic Geometry Seminar. September 2006.
Mathematisches Forschungsinstitut Oberwolfach Invitation. Workshop on Classical Algebraic Geometry. June 2006.
Stanford, Algebraic Geometry Seminar. May 2006.
Berkeley, Gromov-Witten Theory mini-course. November 2005.
Berkeley, Representation Theory, Geometry and Combinatorics seminar. September 2005.
UBC, Algebraic Geometry Seminar. February 2004.
UBC, Graduate Seminar. October 2003.
Institute for Pure and Applied Mathematics, Los Angeles. May 2003.

CONTACT:

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