

Curriculum Vitae

Tianyuan Xu

Department of Mathematics and Statistics
Queen's University
Kingston, Ontario, Canada K7L 3N6

Phone: 613-533-2401
Email: tianyuan@queensu.ca
Webpage: mast.queensu.ca/~tianyuan

Education

University of Oregon	Ph.D. in Mathematics, June 2017 Advisor: Victor Ostrik
University of Oregon	M.S. in Mathematics, January 2014
Reed College	B.A. in Mathematics, May 2011
Budapest Semesters in Mathematics	Visitor, Spring 2010

Research Interests

Algebraic Combinatorics, Representation Theory

Papers

Preprints

1. *Classification of Coxeter groups with finitely many elements of a -value 2*, with Richard Green, in preparation.
2. *On the based ring attached to the subregular cell of a Coxeter group*, arXiv:1702.01338, submitted.

Published

3. *Sandpiles and dominos*, with Laura Florescu, Daniela Morar, David Perkinson and Nick Salter, *The Electronic Journal of Combinatorics*, Volume 22 (1), 2015.
4. *A note on the critical group of a line graph*, with David Perkinson and Nick Salter, *The Electronic Journal of Combinatorics*, Volume 18 (1), 2011.

Other

5. *Graph partitions and free resolutions of toppling ideals*, Reed College Undergraduate Thesis, 2011

Invited Talks

- 04/2018. *Classification of Coxeter groups with finitely many elements of a -value 2*. AMS Eastern Sectional Meeting, special session on "Combinatorial Representation Theory". Northeastern University. (Scheduled)

- 01/2018. *Classification of Coxeter groups with finitely many elements of a -value 2.*
Fifteenth annual meeting of “Combinatorial Algebra Meets Algebraic Combinatorics”.
McMaster University. (Scheduled)
- 10/2017. *Fully commutative elements in Coxeter groups and their heaps.*
Colloquium. Queen’s University
- 09/2017. *On some subalgebras of asymptotic Hecke algebras.*
Geometry and Representation Theory Seminar. Queen’s University.
- 10/2016. *The subregular part of asymptotic Hecke algebras.*
AMS Central Sectional Meeting, special session on “Combinatorial Representation Theory”.
University of St. Thomas.
- 04/2016. *The subregular part of Lusztig’s asymptotic Hecke algebras.*
MAA Pacific Northwest Sectional Meeting, special session on “Algebra and Number Theory”.
Oregon State University.
- 10/2010. *Sandpiles and domino tilings.*
Math Colloquium. Reed College. October 2010. (invited)

Poster Presentations

- 03/2017. *Free fusion rings arising from asymptotic Hecke algebras.*
Southwest Local Algebra Meeting. University of New Mexico.
- 06/2016. *The subregular part of Lusztig’s asymptotic Hecke algebras.*
The Second Meeting of the US-Mexico Conference on Representation Theory, Categorification,
and Noncommutative Algebra. University of Southern California.
- 06/2016. *On asymptotic Hecke algebras of Coxeter groups.*
Southwest Local Algebra Meeting. Texas State University.

Other Conferences/Workshops Attended

- 06/2017. Algebraic and Geometric Combinatorics of Reflection Groups. Centre de Recherches
Mathématiques, Université de Montréal.
- 11/2016. Vaintrobfest: Representations, Combinatorics, Knots and Geometry. University of Oregon.
- 07/2016. The 7th International Conference on Representation Theory. Huaqiao University, China.
- 08/2015. Lie Algebras, Vertex Operator Algebras, and Related Topics. University of Notre Dame.
- 08/2014. Workshop on Soergel Bimodules and the Kazhdan-Lusztig Conjectures. University of Oregon.

Teaching and Tutoring

As Instructor of Record (University of Oregon, September 2011 - present)

Taught 15 courses as sole instructor of record. Courses taught:
Elementary linear algebra, Discrete mathematics II, Calculus for social sciences II,
Calculus III (series), Calculus II (integral calculus), Calculus I (differential calculus),
Elementary functions, College algebra

As Teaching Assistant (University of Oregon, September 2011 - present)

Served as teaching assistant for 3 courses (each had around 140 students).
The courses are:

Introduction to statistics and probability, Discrete mathematics I

Tutoring Experience (Reed College Academic Support Services, August 2008 - May 2011)

Tutored students individually and in groups. Courses tutored:

Linear algebra, Multivariable calculus, calculus, Introduction to analysis, General physics

Services

Journal Referee (February 2017 - present)

Invited referee for Science China Mathematics.

Student Algebra Seminar, University of Oregon

Organizer. Coordinated weekly student talks. (September 2016 - present)

Association for Women in Mathematics, University of Oregon Chapter

Cochair of undergraduate mentoring committee. Co-organized year-long undergraduate reading program. (September 2016 - present)

Member of distinguished speakers committee. Helped prepare for the quarterly Distinguished Speakers Series. (September 2016 - present)

Member of undergraduate mentoring committee. Mentored two undergraduate students in a reading project on Coxeter groups. (September 2015 - June 2016)

Student Thesis Committee, Clarks Honors College at University of Oregon

Committee member. Advised a student's thesis and evaluated the student's thesis defense. (March 2016 - June 2016)

Oregon Invitational Mathematics Tournament, University of Oregon

Designed exam problems. Graded exams. Helped with logistics. (May 2015, May 2012)

Miscellaneous

Programming/Software Skills: familiar with Python/Sage, Mathematica, PhotoShop/GIMP, html.