XIAOHENG WANG

Princeton University, Department of Mathematics,
Fine Hall, Washington Road, Princeton, New Jersey 08540, USA,
x46wang@uwaterloo.ca

EDUCATION

2005-2008 BS in Mathematics

- University of Waterloo, Pure Mathematics and Actuarial Science Joint Major
- **Advisor:** David McKinnon, Professor.

2008-2013 PhD in Mathematics

- Harvard University
- **Advisor:** Benedict Gross, Leverett Professor of Mathematics.
- **Thesis:** Pencils of Quadrics and Jacobians of Hyperelliptic Curves.

EMPLOYMENT

2017-present University of Waterloo, Assistant Professor, tenure-track

2016-2017 Princeton University, Instructor

2013-2016 Princeton University, Postdoctoral Research Associate and Lecturer

RESEARCH INTEREST

- Algebraic Number Theory, Arithmetic Geometry and Diophantine Approximation.

HONORS and DISTINCTIONS

- **Awards and Scholarships**

Fall 2010 Harvard University Certificate of Distinction in Teaching.

2009-11 National Sciences and Engineering Research Council of Canada: Post Graduate Scholarship for Doctorate Study.

2009 Samuel Eckler Medal in Actuarial Science

2009 Governor General Silver Medal

2008-09 National Sciences and Engineering Research Council of Canada: Post Graduate Scholarship for Master Study.

2005-08 Rene Descartes Scholarship from University of Waterloo.

ACTIVITIES

- **Invited Talks**
  - Fields Medal Symposium, Fields Institute, Toronto (October 2016)
  - Recent Developments on Elliptic Curves, Clay Math Institute, Oxford (September 2016)
  - DIAMANT Symposium, Amsterdam, Netherlands (May 2016)
  - Group, Lie and Number Theory, University of Michigan (April 2016)
  - Algebraic Geometry, Arithmetic Geometry, and Commutative Algebra Seminar, University of South Carolina (April 2016)
  - Princeton University/IAS Number Theory Seminar, Princeton University (March 2016)
  - Number Theory Seminar, Harvard University (February 2016)
  - Southern California Number Thoery Day, University of California, San Diego (February 2016)
  - Pure Mathematics Colloquium, University of Waterloo (November 2015)
  - Rational Points 2015, Franken-Akademie Schloss Schney (July 2015)
  - Number Theory Colloquium, Emory University (Feburary 2015)

- Pure Mathematics Colloquium, University of Waterloo (November 2014)
- Counting Arithmetic Objects (Ranks of Elliptic Curves), Centre de Recherches Mathematiques (November 2014)
- Number Theory Seminar, Harvard University (October 2014)
- Counting Arithmetic Objects, Centre de Recherches Mathematiques (June 2014)
- Number Theory Seminar, University of Wisconsin at Madison (October 2013)
- Number Theory Seminar, University of Chicago (October 2013)
- Number Theory Seminar, Northwestern University (October 2013)
- Princeton/IAS Junior Faculty Number Theory Seminar, Princeton University (October 2013)
- FRG conference on Periods of Automorphic Forms and Applications to L-functions, Stanford University (June 2013)
- Number Theory Seminar, University of Waterloo (November 2012)
- Number Theory Seminar, MIT (September 2012)
- Stanford Student/Special Algebraic Geometry Seminar, Stanford University (May 2012)

- **Publications**

  - *A positive proportion of locally soluble hyperelliptic curves over $\mathbb{Q}$ have no point over any odd degree extension.* J. Amer. Math. Soc. 30 (2017), 451–493. With Manjul Bhargava and Benedict Gross.
  - *Squarefree values of polynomial discriminants I.* arxiv/1611.09806. With Manjul Bhargava and Arul Shankar.
  - *Geometry-of-numbers methods over global fields I: Prehomogeneous vector spaces.* arxiv/1512.03035. With Manjul Bhargava and Arul Shankar.
  - *Arithmetic Invariant Theory II: Pure inner forms and obstructions to the existence of orbits.* Representations of Lie groups, in honor of David A. Vogan Jr. on his 60th birthday, 139–171. Progress in Mathematics 312. (2015) With Manjul Bhargava and Benedict Gross.
  - *Rational points on hyperelliptic curves having a marked rationl non-Weierstrass point.* With Arul Shankar. To appear in Compos. Math.
  - *Maximal linear spaces contained in the base loci of pencils of quadrics.* To appear in Algebraic Geometry.
  - *Pencils of quadrics and Jacobians of hyperelliptic curves.* Harvard Ph.D. thesis. 2013.
  - *Extensions of Atanassov's methods for Halton sequences.* Monte Carlo and Quasi-Monte Carlo Methods 2010, Springer, (2012), pp.345–362. With Henri Faure and Christiane Lemieux.
  - *Geometry-of-numbers methods over global fields II: Coregular representations.* With Manjul Bhargava and Arul Shankar. Preprint.
  - *Squarefree values of polynomial discriminants II.* With Manjul Bhargava and Arul Shankar. In preparation.
  - *Odd degree binary forms taking square values.* With Manjul Bhargava. In preparation.
  - *Special invariants for Vinberg representations.* With Ananth Shankar, Arul Shankar and Cheng-Chiang Tsai. In preparation.

TEACHING EXPERIENCE

- *Instructor:* Algebra for Honours Mathematics, Fall 2017, University of Waterloo
- *Instructor:* Advanced Linear Algebra, Spring 2017, Princeton University
- *Instructor:* Algebra I, Fall 2016, Princeton University
- *Instructor:* Topics in Number Theory (graduate course, joint teaching with Manjul Bhargava), Spring 2016, Princeton University
- *Instructor:* Algebra II (seminar style), Spring 2016, Princeton University

- *Instructor:* Junior seminar on Diophatine approximation and linear forms of logarithms, Fall 2015, Princeton University
- *Instructor:* Algebra II, Spring 2015, Princeton University
- *Instructor:* Introduction to number theory, Fall 2014, Princeton University
- *Instructor:* Calculus II, Spring 2014, Princeton University
- *Instructor:* Calculus I, Fall 2013, Princeton University
- *Teaching Fellow:* Multivariable Calculus, Spring 2013, Harvard University
- *Teaching Fellow:* Multivariable Calculus, Spring 2012, Harvard University
- *Graduate Course Assistant:* Commutative Algebra, Fall 2010, Harvard University
- *Qualifying Exam Review Session Leader:* August 2010, Harvard University
- *Tutor:* Algebra and Calculus, Fall 2006—Spring 2008, University of Waterloo

LANGUAGES

- Native speaker of Chinese, fluent in English.

CITIZENSHIP: Canadian