

# Stephanie Vance

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## EDUCATION

- **University of Washington**, Seattle, WA.  
Ph.D Candidate in Mathematics, expected June 2009.  
Advisor: Henry Cohn
- **University at Buffalo**, Buffalo, NY.  
M.A. in Mathematics, May 2005
- **Northern Arizona University**, Flagstaff, AZ.  
B.S. in Mathematics, May 2003.  
Advisor: Janet McShane

## AWARDS

- NSF VIGRE Graduate Fellowship, spring and summer 2008, UW.
- ARCS Foundation Fellowship, fall 2005 – spring 2008, UW.
- Graduate Opportunity Research Assistantship, fall 2005 – spring 2006, UW.
- College of Arts and sciences Deans Scholarship, fall 2003 – spring 2005, UB.
- Undergraduate Scholastic Award, April 8, 2003, NAU.

## RESEARCH INTERESTS

My general research interests include algebra, discrete geometry, and combinatorics. I am particularly interested in lattices and packings in Euclidean space with interesting module structures, quaternion algebras, and problems in enumerative combinatorics and graph theory.

## PUBLICATIONS AND PREPRINTS

- *A Mordell inequality for Eisenstein and Hurwitz lattices*, to appear in Transactions of the AMS. Available at [www.arXiv.org](http://www.arXiv.org) as arXiv:0810.2336.
- *New lower bounds for the sphere packing density in high dimensions*, in preparation.

## INVITED TALKS

- *A Mordell inequality for Eisenstein and Hurwitz lattices*, March 28, 2008. Workshop on Extreme Geometric Structures, Hausdorff Institute, Bonn, Germany.
- *Lattices in real, complex and quaternionic vector spaces*, February 5, 2008. SAGE Days 7, hosted by IPAM at UCLA.
- *An introduction to lattices and sphere packing problems*, May 22, 2008. UW Undergraduate Applied and Computational Mathematical Sciences Seminar.

## TEACHING

### University of Washington

- Co-Instructor, Mathematics for Elementary Teachers, Winter 2008.
- TA, Mathematics for Elementary Teachers, Fall 2007.
- TA, Calculus with Analytic Geometry III, Summer 2007.
- TA, Calculus with Analytic Geometry III, Spring 2007.
- TA, Applications of Calculus to Business and Economics, Winter 2007.
- TA, Algebra with Applications, Fall 2006.
- TA, Algebra with Applications, Summer 2006.

### TOPS Seward Elementary and Middle School

- Instructor, grades 3-6 math enrichment program, Fall 2008.
- Instructor and Organizer, grades 3-6 math enrichment program, Fall 2007 - Spring 2008 (VIGRE funded project).
- Instructor and Organizer, grades 4-5 math enrichment program, Fall 2006 - Spring 2007.

### University at Buffalo

- TA, Introduction to Real Variables II, Spring 2005.
- TA, College Calculus II, Spring 2005.
- TA, Survey of Calculus and its Applications I, Fall 2004.
- Instructor, Mathematical Analysis for Management, Summer 2004.
- TA, Introduction to Real Variables II, Spring 2004.
- TA, Survey of Calculus and its Applications II, Spring 2004.
- TA, College Calculus I, Fall 2004.

## WORKSHOP AND CONFERENCE ATTENDANCE

- AMS MathFest (poster presenter), Madison, WI, July 31–August 2, 2008.
- Workshop on Representation Theory, Geometry and Combinatorics, University of California, Berkeley, June 2–6, 2008.
- Workshop on Extreme Geometric Structures, Hausdorff Institute, Bonn, Germany, March 26–30.
- SAGE Days 7, UCLA, February 5–9, 2008.
- Industrial Mathematical and Statistical Modeling Workshop for Graduate Students, North Carolina State University, July 24–August 1, 2007.
- Graduate Student Combinatorics Conference, University of Washington, April 21–22, 2007.
- TA Conference on Teaching and Learning, University of Washington, September 19–23, 2005.

## PROFESSIONAL AND SERVICE ACTIVITIES

- Volunteer at MathFest Fall 2008 in Seattle, a city-wide celebration of elementary students and mathematics hosted by Explorations in Math, November 13, 2008.
- Served on VIGRE PIMS committee, University of Washington, Fall 2007–Summer 2008.
- Day host for prospective University of Washington graduate students during the spring of 2006, 2007, and 2008.
- Presenter at “Math Day”, an annual outreach activity for Washington state high school students, University of Washington, March 2006.
- Teaching assistant mentor, University at Buffalo, Fall 2004.

## REFERENCES

*Provided upon request*