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## Education

B.S. Mathematics, University of California, Santa Barbara, 2003.

M.A. Mathematics, University of California, Davis, 2005.

Ph.D. Mathematics, University of California, Davis, *expected* 2009.

*Advisor:* Monica Vazirani

## Research Fields

Combinatorics, Algebra and Representation Theory

## Interests

Algorithms and applications of combinatorics. Applications of mathematics to the technical industry.

## Academic Experience

*University of California, Santa Barbara, Campus Learning Assistance Services*

Mathematics Tutor and Section Leader, 2001-2003

*University of California, Davis, Department of Mathematics*

Research Assistant, Spring 2006

Teaching Assistant, Introductory Calculus, Winter 2005

Teaching Assistant, Graduate Algebra, Fall 2005

Teaching Assistant, Undergraduate Analysis, Winter 2007

Teaching Assistant, Undergraduate Algebra, Winter 2008

Teaching Assistant, Graduate Algebra, Spring 2008

## Research

*Accepted Papers*

$(\ell, 0)$ -Carter partitions, their crystal-theoretic behavior and generating function, joint with Monica Vazirani

*Submitted Papers*

A bijection on core partitions and a parabolic quotient of the affine symmetric group, joint with Brant Jones and Monica Vazirani

*Work in Progress*

$(\ell, 0)$ -JM Partitions and the Ladder Crystal.

**Presentations***Conference Presentations*

Group Theory Day 2007, Counting Representations of the finite Hecke Algebra which remain irreducible at a root of unity, at the University of Arizona.

FPSAC 08,  $(\ell, 0)$ -Carter Partitions, Crystal Rules and a Bijection of Cores, in Viña del Mar, Chile.

*Other Presentations*

Student Run Discrete Mathematics Seminar, A Bijection of Cores, at UC Davis, 2008.

Math Circle, lectures for high school students at UC Davis, Davis, CA, 2007.

Math Circle, lectures for high school students at Laney College, Oakland, CA, 2008.

**Teaching***Courses taught at University of California, Davis*

Introductory Multivariable Calculus, Summer 2005

Vector Analysis, Fall 2006

Short Calculus Second Quarter, Winter 2006

Short Calculus Third Quarter, Fall 2007 and Fall 2008

Advanced Calculus, Summer 2007

Combinatorics, Summer 2008

**Professional Activities***Service*

Founder and Organizer, Student Discrete Mathematics Seminar, University of California, Davis, 2007–2008

Co-organizer, Graduate Student Combinatorics Conference, University of California, Davis, 2008

## Honors & Awards

### *Fellowships*

NSF Vigre Fellowship, University of California, Davis, Fall 2003 to Spring 2004

NSF Summer Research Fellowship, University of California, Davis, 2004, 2006, 2007, 2008

GAANN Fellowship, University of California, Davis, Winter 2006

## Miscellaneous

### *Computer Skills*

Python, Unix, Windows, OS X, Graphviz, Mathematica, L<sup>A</sup>T<sub>E</sub>X.

Last updated: November 18, 2008