

Amanda R. Riehl

CONTACT INFORMATION

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RESEARCH INTERESTS

Algebraic and Enumerative Combinatorics: symmetric functions, permutation patterns, generating functions. AMS Subject Classifications: 05E05, 05A05, 05A17, 06A07, 68R05.

EDUCATION

University of California, San Diego (UCSD), La Jolla, CA USA

Ph.D. in Mathematics, expected June 2008

- Dissertation Topic: “Permutation Enumeration and Ribbon Schur Functions”
- Advisor: Jeffrey Remmel

M.A. in Mathematics, March 2005

Massachusetts Institute of Technology, Cambridge, MA USA

B.Sc. in Mathematics, MIT/Wellesley Teacher Education Program, May 2003

HONORS AND AWARDS

Barbara J. and Paul D. Saltman Excellent Teaching Award - UC San Diego Math Department Nominee 2006

GAANN Fellowship, 2004-2005

Teaching Assistantship with Fee Scholarship, UCSD, 2003-2007

APPOINTMENTS

University of California, San Diego

Senior Teaching Assistant

2007-present

Training and oversight of all math department teaching assistants, including: classroom observations, assignment of teaching assistants to courses, and arranging and teaching workshops for teaching assistants. (math.ucsd.edu/~seniorta)

Summer Program Coordinator

Summer 2007

Managed instructors and coordinated the three summer math graduate student programs: Women’s Summer Program, Qualifying Exam Preparation Sessions, and Incoming Graduate Student Orientation.

Associate Instructor

Fall 2006

Taught an undergraduate precalculus course. Responsible for lectures, exams, homework assignments, lab assignments and assigning grades. Also oversaw the teaching assistant, grader, and student interns.

Teaching Assistant

2003-2007

Entire calculus sequences, Linear Algebra (with Matlab component), Mathematical Reasoning (Intro to Proofs), Geometry for Secondary School Teachers, History of Mathematics.

Mesa College, San Diego, CA

Adjunct Professor

Spring 2006 - Summer 2007

Full instructor responsibilities for business calculus and engineering calculus courses. Designed syllabi, assigned grades, wrote and graded exams, quizzes and homework.

Massachusetts Institute of Technology, Cambridge, MA

Math Teaching Assistant for MIT Women’s Technology Program **Summer 2002 - Summer 2003**

Assisted in developing and implementing math curriculum, designed interactive non-lecture style classes, assisted in teaching classes, tutored students nightly with the day’s assignments.

Researched a problem in graph theory on block transitive tournaments with Daniel J. Kleitman, which led to a publication.

PUBLICATIONS

Remmel, J.B., Riehl, A.R. *Some expansions of the dual basis of the ribbon Schur functions indexed by partitions.* (in preparation)

Remmel, J.B., Riehl, A.R. *Generating functions for permutations with repeated patterns.* (in preparation)

Remmel, J.B., Riehl, A.R. *Generating functions for permutations which contain a given descent set.* (submitted)

Riehl, A. R. *Descent patterns in permutations.* Proceedings of the 2007 International Conference on Formal Power Series and Algebraic Combinatorics.

Mendes, A., Remmel, J.B., and Riehl A.R. *A generalization of the generating functions for descent statistic.* Proceedings of the Permutation Patterns Conference, 2007.

Riehl, A.R. *Some expansions of the dual basis of Z_λ .* Proceedings of the 2006 International Conference on Formal Power Series and Algebraic Combinatorics.

Kleitman, D.J., Riehl, A.R., et al. *On a conjecture of Brualdi and Shen on block transitive tournaments.* Journal of Graph Theory **44** 215-230, 2004.

Riehl, A.R., *Penny Fountains in the Plane.* MIT Undergraduate Journal of Mathematics Vol. **5** 2003.

PRESENTATIONS

Descent patterns in permutations. Poster Presentation: International Conference on Formal Power Series and Algebraic Combinatorics, Tianjin, China, July 2007.

A generalization of the generating functions for descent statistic. Permutation Patterns Conference, St. Andrews, Scotland, June 2007.

Combinatorial paella. Food for Thought Seminar, San Diego, California, October 2006.

Some expansions of the dual basis of Z_λ . Poster Presentation: International Conference on Formal Power Series and Algebraic Combinatorics, San Diego, California, June 2006.

Understanding the dual basis to the ribbon Schur functions indexed by partitions. All-Grad Research Symposium, UCSD, February 2006.

COMMUNITY INVOLVEMENT

Organizer and Panelist, "How to Find an Advisor" panel, UCSD, February 2007.

Organizer, "How to Find a Job" panel, UCSD, April 2007.

Grader, UCSD/GSDMC High School Honors Math Contest, 2007.

Organizer, UCSD Prospective Math Grad Student Open House Potluck, April 2007.

Guest Lecturer on Ramsey Theory, Math Zoom Summer Camp, August 2007.

REFERENCES

Professor Jeff Remmel: jremmel@ucsd.edu (dissertation advisor)

Professor Adriano Garsia: agarsia@ucsd.edu

Professor Fan Chung Graham: fan@math.ucsd.edu

Bruce Arnold: barnold@math.ucsd.edu (teaching reference)

Dr. John Eggers: jeggers@ucsd.edu (teaching reference)