Cilanne E. Boulet

Office:
Cornell University,
Department of Mathematics,
Malott Hall 581,
Ithaca, NY 14853, USA.

Tel: (607) 255-4892

Email: cilanne@math.cornell.edu

Citizenships: United States of America, Canada

Current Position

Visiting Assistant Professor, Department of Mathematics, Cornell University, Ithaca, NY, August 2005 - present.

Education

Massachusetts Institute of Technology (MIT), Cambridge, MA.
Ph.D. in Applied Mathematics, June 2005.
Thesis title: Partition identity bijections related to sign-balance and rank.
Thesis advisor: Richard Stanley (MIT).

University of Waterloo, Waterloo, Ontario, Canada.
BMath in Pure Mathematics and Combinatorics & Optimization, Graduated with Distinction, Dean's Honours List, June 2001.

St. Mary's Academy, Winnipeg, Manitoba, Canada.
High School Diploma, Governor General's Bronze Medal for highest academic standing, June 1997.

Current research interests

Enumerative and algebraic combinatorics.

Partition theory, q-series, and special functions.

Applications of combinatorics to political science.

Publications

Ethnic diversity and democratic stability (with Kanchan Chandra), in preparation.

Dyson's new symmetry and generalized Rogers-Ramanujan identities, submitted (2006).

A combinatorial proof of the Rogers-Ramanujan and Schur identities (with Igor Pak), J. Combin. Theory Ser. A, 113(6):1019-1030, 2006.

A four-parameter partition identity, to appear in the Ramanujan Journal, (2004).

A combinatorial model of change in an ethnic demography (with Kanchan Chandra), to appear as a chapter in a book entitled Ethnicity, Politics and Economics, (2003).

Selected talks

Penn State University, Combinatorics and Partitions Seminar, November 2005. *A new combinatorial proof of the Roger-Ramanujan and Schur identities.*

Binghamton University, Combinatorics Seminar, November 2005. *A new combinatorial proof of the Roger-Ramanujan and Schur identities.*

Cornell University, Discrete Geometry and Combinatorics Seminar, September 2005. *A new combinatorial proof of the Roger-Ramanujan and Schur identities.*

Institut Mittag-Leffler, June 2005. *A new combinatorial proof of the Roger-Ramanujan and Schur identities.*

Rutgers University, Experimental Mathematics Seminar, November 2004. *A new combinatorial proof of the Roger-Ramanujan identities.*

University of Waterloo, Tutte Seminar, October 2004. *A new combinatorial proof of the Roger-Ramanujan identities.*

MIT, Combinatorics Seminar, October 2004. *A new combinatorial proof of the Roger-Ramanujan identities.*

16th International Conference on Formal Power Series and Algebraic Combinatorics, Vancouver, BC, June 2004. *A four-parameter partition identity.*

MIT, Graduate student applied mathematics seminar, February 2004. *Dyson's map.*

Workshop on construtivist approaches to ethnic groups, Philadelphia, PA, August 2003. *A combinatorial model for change in an ethnic demography.*

MIT, Mini-conference in honor of Doron Zeilberger, May 2003. *A four-parameter partition identity.*

MIT, Graduate student applied mathematics seminar, May 2003. *Stability of an ethnic demography.*

Poster

17th International Conference on Formal Power Series and Algebraic Combinatorics, Taormina, Italy, June 2005. *A new combinatorial proof of the Rogers-Ramanujan and Schur identities.*

Teaching experience

Instructor, *Linear Algebra (MATH 431)*, Cornell University, Fall 2006.

Instructor, *Calculus II (MATH 112)*, Cornell University, Spring 2006.

Instructor, *Linear Algebra and Differential Equations (MATH 221)*, Cornell University, Fall 2005.

Recitation Instructor, *Mathematics Lecture Series*, MIT, January 2004.
Responsibilities included leading problem sessions, grading homework assignments, and conducting office hours.

Recitation Instructor and Course Administrator, *Linear Algebra*, MIT, Fall 2002 and Spring 2003.
Responsibilities included leading recitation, creating and grading homework assignments and exams, conducting office hours and maintaining the course webpage.

Grader, *Principles of Applied Mathematics*, MIT, Fall 2001, *Algebraic Combinatorics*, MIT, Spring 2002.
Responsibilities included grading homework assignments.

Tutor and Grader, University of Waterloo, Fall 1998 to Spring 2001.
Responsibilities included tutoring and grading linear algebra and combinatorics classes.

Other academic experience

Special Program, *Algebraic Combinatorics*, Institut Mittag-Leffler, Djursholm, Stockholm, Sweden, May-June 2005.

Summer School, *Geometric Combinatorics*, Park City Mathematics Institute, Park City, Utah, July 2004.

Summer School, *Algebraic Combinatorics*, Sophus Lie Conference Center, Nordfjordeid, Norway, June 2003.

Undergraduate Student Research, University of Waterloo.
Research in enumerative combinatorics under the direction of David Wagner (Summer 1999) and Ian Goulden (Summer 2000).

Scholarships and awards

NSERC, Canada, *Postgraduate Study Scholarship (PGS B, with tenure abroad)*, 2003-2005.

NSF, *Graduate Fellowship - Honorable Mention*, 2002.

NSERC, Canada, *Postgraduate Study Scholarship (PGS A, with tenure abroad)*, 2001-2003.

University of Waterloo, *René Descartes National Scholarship* 1997-2001.

Other

Fluent in French and English.