

Maria Monks Gillespie

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CURRENT POSITION

Mathematics Ph.D. Candidate, UC Berkeley

Expected Graduation May 2016

EDUCATION

Master of Advanced Study, Mathematics
Cambridge University, Cambridge, UK
Pass with Merit

June 2011

Bachelor of Science, Mathematics
Massachusetts Institute of Technology, Cambridge, MA
Minor: Physics
Concentration: Music
GPA 5.0 (5.0 scale)

May 2010

High School Scholar
University of Scranton, Scranton, PA
GPA: 4.0

May 2006

PUBLICATIONS

- M. Monks Gillespie and J. Levinson. Monodromy and K -theory of Schubert curves via generalized Jeu de taquin. In preparation.
- M. Monks Gillespie. A combinatorial approach to the q, t -symmetry relation in Macdonald polynomials. Submitted to *Electronic Journal of Combinatorics*, 2015.
- K. Monks, K. G. Monks, K. M. Monks, and M. Monks. Strongly sufficient sets and the distribution of arithmetic sequences in the $3x + 1$ graph. *Discrete Mathematics*, Volume 313, Issue 4, 28 February 2013, Pages 468-489.
- M. Monks and K. Ono. Modular forms arising from $Q(n)$ and Dyson's rank. *Advances in Applied Mathematics*, Dennis Stanton issue 46 (2011), 457-466.
- M. Monks. Number theoretic properties of generating functions related to Dyson's rank for partitions into distinct parts. *Proceedings of the American Mathematical Society*, **138** (2010), 481-494.
- M. Monks. Reconstructing permutations from cycle minors. *Electronic Journal of Combinatorics*, **16** (2009), #R19.
- M. Monks. The Solution to the Partition Reconstruction Problem, *Journal of Combinatorial Theory, Series A*, Volume 116, Issue 1 (2009).
- M. Monks. Endomorphisms of the 2-adic shift map, discrete derivatives, and applications. *Discrete Mathematics*, Vol. 309, Issue 16 (2009), 5196-5205.

CONFERENCES AND PRESENTATIONS

- M. Monks Gillespie, “A combinatorial approach to the q, t -symmetry relation in Macdonald polynomials,” *University of Michigan Combinatorics Seminar*, April 2015.
- M. Monks Gillespie, “A combinatorial approach to the q, t -symmetry relation in Macdonald polynomials,” *UC Berkeley Combinatorics Seminar*, April 2015.
- M. Monks Gillespie, “A combinatorial approach to the q, t -symmetry relation in Macdonald polynomials,” *Berkeley/Davis Combinatorics Gatherings*, UC Davis, March 2015.
- M. Monks Gillespie, “On the q, t -symmetry relation in Macdonald polynomials,” Graduate Student Combinatorics Conference, University of Minnesota, March 2013.
- K. Monks, K. M. Monks, K. G. Monks, M. Monks, “On the distribution of arithmetic sequences in the $3x + 1$ graph,” *AMS Session on Combinatorics and Graph Theory, Joint Mathematics Meetings*, January 2012.
- M. Monks, “On the distribution of arithmetic sequences in the $3x + 1$ graph,” *UC Berkeley Combinatorics Seminar*, October 2011.
- M. Monks, “Asynchronously Automatic Languages and Groups,” *AMS Special Session for Undergraduate Research, Joint Mathematics Meetings*, January 2011.
- M. Monks, “Asynchronously Automatic Languages and Groups,” *Colorado State University Algebra Seminar*, March 2010.
- M. Monks, “Partitions into distinct parts and Dyson’s rank,” *University of Michigan Combinatorics Seminar*, March 2010.
- M. Monks, K. Ono, “Modular Forms arising from $Q(n)$ and Dyson’s rank,” *AMS Special Session for Undergraduate Research, Joint Mathematics Meetings*, January 2010.
- *Conference on mock theta functions and applications in combinatorics, algebraic geometry, and mathematical physics*, Max Planck Institute, Bonn, Germany, May 2009.
- M. Monks, “Partitions into distinct parts and Dyson’s rank,” *Colorado State University mathematics colloquium*, March 2009.
- *Student Workshop participant in conference on Quadratic Forms, Sums of Squares, Theta Functions, and Integral Lattices*, Gainesville, FL, March 2009.
- M. Monks, “Partitions into distinct parts and Dyson’s rank,” *Special Session on q -series and partitions, AMS Central Sectional Meeting*, March 2009.
- M. Monks, “Number theoretic properties of generating functions related to Dyson’s rank for partitions into distinct parts,” *AMS Special Session on Automorphic and Modular Forms in Number Theory, Joint Mathematics Meetings*, January 2009.
- M. Monks, “The Solution to the Partition Reconstruction Problem,” *AMS Session on Combinatorics, Joint Mathematics Meetings*, Jan. 2008.

HONORS AND AWARDS

Morgan Prize, 2011
Churchill Scholar, 2010-2011
Hertz Fellow, 2010-Present
NSF GRFP Fellow, 2010
NCAA Academic All-American, 2010
Morgan Prize Honorable Mention, 2010
Alice T. Schafer Prize for Women in Mathematics, 2009
Goldwater Scholar, 2009
Putnam Honorable Mention, 2006
Math Olympiad Summer Program, 2004, 2005

TEACHING AND MENTORING

<i>Co-Founder of Prove it! Math Academy</i> See http://proveitmath.org	2015
<i>Math Olympiad Summer Program (MOSP) Instructor</i>	2008–Present
<i>Graduate Student Instructor, UC Berkeley</i>	Spring 2014, Fall 2014
<i>IdeaMath Summer Program Instructor</i>	2013
<i>Coach of the USA Girls' Math Olympiad Team</i>	2008, 2011
<i>Duluth REU Advisor</i>	2010
<i>Art of Problem Solving Online School</i> See www.artofproblemsolving.com .	2006–Present
<ul style="list-style-type: none">• Instructor, Grader, or Class Assistant, 2006–Present• USAMTS Grader, 2006–2008	
<i>Girls' Angle Mentor</i> See www.girlsangle.org .	2010–2011
<i>IdeaMath Instructor, Lexington High School Weekend Program</i>	2010–2011
<i>Private Math Tutoring</i>	2004–Present

LEADERSHIP AND VOLUNTEER WORK

<i>SageMath open source software developer</i>	2013–Present
<i>FindStat combinatorial statistics database contributor</i>	2013–Present
<i>USA Math Olympiad Problem Writer and Reviewer</i> <ul style="list-style-type: none">• Grader, 2008, 2013	2015
<i>UC Berkeley Mathematics Graduate Student Association Officer</i> <ul style="list-style-type: none">• President, 2013	2012–2014
<i>Harvard-MIT Mathematics Tournament (HMMT)</i>	2006–2011
<i>MIT Undergraduate Math Association officer</i>	2007–2010
<i>American Regions Math League (ARML) grader</i> Lehigh Valley team assistant	2007, 2008

INTERESTS

Running, hiking, piano, accordion, programming