

Madeline Locus Dawsey

CONTACT INFORMATION

Emory University
Department of Mathematics
Mathematics and Science Center, W431
400 Dowman Drive
Atlanta, GA 30322

Mobile: (512) 293-0418

mlocus@mathcs.emory.edu

ACADEMIC INTERESTS

partition functions, modular forms, Chebotarev density

EDUCATION

University of Georgia - Athens, GA

- B.S. Mathematics (August 2011 - May 2014)
- A.B. Italian, Area of Emphasis: Italian Studies (January 2012 - December 2014)
- Overall GPA: 3.93

Siena Italian Studies - Siena, Italy

- Study abroad program (June 2013)
- Full Immersion: Culture, Content, and Service (FICCS)

Emory University - Atlanta, GA

Third year Ph.D. student with advisor Ken Ono

- George W. Woodruff Fellow

PUBLICATIONS

1. C. Frechette and M. Locus. Combinatorial properties of Rogers-Ramanujan-type identities arising from Hall-Littlewood polynomials. *Annals of Combinatorics*, Vol. 20, Issue 2 (2016) pp. 345-360.
2. E. Alwaise, R. Dicks, J. Friedman, L. Gu, Z. Harner, H. Larson, M. Locus, I. Wagner, and J. Weinstock. Shifted distinct-part partition identities in arithmetic progressions. Accepted. *Annals of Combinatorics*.
3. M. Locus and I. Wagner. Congruences for powers of the partition function. Accepted. *Annals of Combinatorics*.
4. M. Locus. Conjugacy growth series for finitary wreath products. *Res. Number Theory*. **3**, 7 (2017).

M. Locus. Erratum to: Conjugacy growth series for finitary wreath products. *Res. Number Theory*. **3**, 15 (2017).
Minor typographical errors in Corollaries 5 and 7 were fixed.
5. M. L. Dawsey. A new formula for Chebotarev Densities. *Res. Number Theory*. **3**, 27 (2017).

6. M. L. Dawsey and R. Masri. Inequalities satisfied by the Andrews spt-function. Submitted.
7. M. L. Dawsey and K. Ono. CM Evaluations of the Goswami-Sun Series. In progress.
8. M. L. Dawsey and K. Ono. To be determined (about moonshine). In progress.

TEACHING
EXPERIENCE

Teaching Assistant, M116 Calculus II for Life Sciences (two sections), Fall 2015.

Lecture assistant for Emory University Math Circle, Fall 2015.

Grader, M250 Foundations of Mathematics, Fall 2015.

Calculus tutor for Emory University, Fall 2015 - Spring 2016.

Grader, M250 Foundations of Mathematics (two sections), Spring 2016.

Emory University Instructor, M111 Calculus I, Fall 2016.

Emory University Instructor, M112 Calculus II, Spring 2017.

Emory University Instructor, M111 Calculus I, Summer 2017.

Emory University Instructor, M111 Calculus I, Fall 2017.

Emory University Instructor, M111 Calculus I, Spring 2018.

Emory University Instructor, M112 Calculus II, Summer 2018.

CONFERENCE
PRESENTATIONS

January 2015, *Rogers-Ramanujan Series Arising from Hall-Littlewood Polynomials*, AMS-MAA Joint Mathematics Meetings Poster Session, San Antonio, Texas.

September 2017, *A New Formula for Chebotarev Densities*, Palmetto Number Theory Series, Knoxville, Tennessee.

December 2017, *A New Formula for Chebotarev Densities*, International Conference on Number Theory, Kumbakonam, India.

March 2018, *Effective Bounds for Andrews' Smallest Parts Function*, 32nd Automorphic Forms Workshop, Boston, Massachusetts.

COLLOQUIA AND
SEMINARS

April 2015, *Combinatorial Properties of Generalized Rogers-Ramanujan Identities*, University of Georgia Number Theory Seminar.

March 2017, *Conjugacy Growth Series for Wreath Products of Finitary Permutation Groups*, Texas A&M University Number Theory Seminar.

March 2017, *Conjugacy Growth Series for Wreath Products of Finitary Permutation Groups*, University of Pennsylvania Combinatorics, Algebra, and Geometry Seminar.

March 2018, *Densities of subsets of prime numbers*, Baylor University Mathematics Colloquium.

PROFESSIONAL
SERVICE

Qualifying Exams Coordinator for Emory graduate students, Spring 2016.

Referee work: 6 papers for the following journals

- Trans. Amer. Math. Soc.
- Research in Number Theory
- Research in the Mathematical Sciences
- The Ramanujan Journal
- Involve

Leader/Moderator/Organizer of the Student Advisory Panel for Mathematics, Computer Science, and Basic Sciences at the Emory Teaching Assistant Training and Teaching Opportunity (TATTO) workshop, Summer 2018.

AWARDS

George W. Woodruff Fellowship, Emory University, 2015-present.

SEC Boyd McWhorter Scholar-Athlete of the Year Award and Postgraduate Scholarship, Southeastern Conference, 2015.

NCAA Postgraduate Scholarship Award, National Collegiate Athletic Association, 2015.

Induction into Sphinx Club, University of Georgia, 2014.

AT&T Student Leadership Award, University of Georgia, 2014.

Joel Eaves Scholar-Athlete Award, University of Georgia Athletic Department, 2013.

Hollingsworth Award, University of Georgia Math Department, 2013.

OTHER ACTIVITIES Coach for the Emory Club Swim Team, 2017-2018 season.

COMPUTING
SKILLS

Some experience with computing software: Maple (C, Java), MATLAB