

Andrea Heald

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Education

Ph.D. Mathematics, University of Virginia, August 2013.

Thesis: “Bounded Generation of Two Families of S -Arithmetic Groups”

Advisor: Andrei Rapinchuk

B.S. Mathematics, Harvey Mudd College, May 2007.

Thesis: “Understanding Counter-Examples to Lubin’s Conjecture”

Advisor: Ghassan Sarkis

Teaching

University of Washington

Instructor for Introduction to Mathematical Reasoning, Fall 2018, Winter 2019.

Instructor for Probability I, Spring 2018.

Instructor for Elementary Number Theory, Spring 2014, Summer 2014, Spring 2015, Spring 2017 and Fall 2017.

Instructor for Abstract Linear Algebra, Summer 2017.

Instructor for Matrix Algebra, Winter 2015, Spring 2015, Autumn 2015, Winter 2016, Spring 2016, Autumn 2016, Winter 2018, Winter 2019.

Instructor for Differential Equations, Winter 2017, Winter 2018, Fall 2018.

Instructor for Linear Analysis, Winter 2016, Spring 2016.

Seattle University

Instructor for Precalculus: Algebra, Fall 2013. Was responsible for all aspects of the course, except for choice of textbook.

University of Virginia

Instructor for Probability and Finite Math, Spring 2009, Spring 2010, Spring 2011, Spring 2012 and Spring 2013. Was responsible for all aspects of the course.

Instructor for Calculus I, Fall 2010 and Fall 2011. Coordinated course. Was responsible for all instruction and some test writing.

Instructor for Applied Calculus II, Fall 2010. Coordinated course. Was responsible for all instruction and some test writing.

Instructor for Applied Calculus I, Fall 2009. Coordinated course. Was responsible for all instruction and some test writing.

Teaching Assistant for Calculus I, Fall 2007 and Spring 2008

Research Interests

Algebraic number theory, group theory and their intersections with geometry.
 Properties of S -arithmetic groups, especially those related to bounded generation.
 Group presentations.
 Other interests include math art and math education.

Publications

A. Heald, M. Pearson and M. C. B. Zaremsky. *Waffles: Irreducible Representations of Metacyclic Groups*.
 Pi Mu Epsilon Journal, Issue 13:2 (Spring 2010).

Talks

AMS Special Session on Number Theoretic Methods in Hyperbolic Geometry, Joint Mathematics Meeting:
 “Finding nonsimple geodesics in Hyperbolic 3-manifolds.” January 2019.

Various talks in the graduate student run “Dynamics Seminar”, University of Washington, 2017-2018.

Pre-seminar talk, University of Washington: “Arithmetic Groups and Witt’s theorem” October 28, 2014

Algebra and Algebraic Geometry Seminar, University of Washington: “Bounded Generation of certain
 Arithmetic Groups” October 28, 2014

Graduate Seminar, University of Virginia: “Fun with Strong Approximation” December 2, 2011

Algebra Seminar, University of Virginia: “Bounded Generation of SL_n ” December 10, 2010

Conferences and Workshops Attended

AMS MRC Workshop on Number Theoretic Methods in Hyperbolic Geometry, June 2018

Discovering the Art of Mathematics workshop (workshop on IBL teaching), Seattle University, February
 2015

Joint Mathematics Meeting, San Diego, CA, January 2018 (presented artwork)

Joint Mathematics Meeting, Seattle, WA, January 2016 (presented artwork)

Joint Mathematics Meeting, San Diego, CA, January 2013 (presented artwork)

Joint Mathematics Meeting, Boston, MA, January 2012 (presented artwork)

MSRI Summer Graduate School on Commutative Algebra, June 2011

Summer School on Lie and Representation Theory at the University of Georgia, May 2010

Joint Mathematics Meeting, New Orleans, LA, January 2007 (presented poster)

Fellowships and Grants

Dissertation Fellowship - University of Virginia Math Department, Fall 2012

GAANN Fellowship, University of Virginia, 2007-2013

National Merit Scholarship