

Ravi Donepudi

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Ph.D Student

University of Illinois at Urbana-Champaign

Education

- Fall 2014– **Ph.D in Mathematics**, *University of Illinois*, Urbana-Champaign.
Adviser: Prof. Patrick Allen
- 2010–2014 **Bachelor of Arts in Mathematics**, *Colorado College*.
Adviser: Prof. Stefan Erickson
- Spring 2010 **Budapest Semester in Mathematics**, *Budapest University*, Hungary.

Interests

My field of research is arithmetic geometry. I study problems involving the algebraic curves, their Jacobians and more general abelian varieties in positive characteristic. I am also interested in the theory of integral models of PEL-type Shimura varieties.

Publications, Presentations and Projects

Publications

- [1] On the second moments of some families of curves over a finite field, with J. Li and A. Zaharescu. *Finite Fields and Their Applications* (2017), vol. 48, 331-355 .
- [2] Restrictions on Weil polynomials of Jacobians of hyperelliptic curves, with E. Costa, R. Fernando, V. Karemaker, C. Springer and M. West. *Submitted*.

Presentations

- [1] Stark Conjectures in Rational Function Fields. At *Colorado College*, April 2013.
- [2] Counting Cubic Extensions of Function Fields with given Quadratic Resolvent. In *Pikes Peak Regional Undergraduate Mathematics Conference, University of Colorado*, February 2014.
- [3] Analogues of Cyclotomic Extensions in Function Fields. In *Algebraic Geometry Seminar, University of Illinois at Urbana-Champaign*, October 2014.
- [4] The Functional Equation of the Dedekind Zeta Function of a Number Field.
- [5] p -adic Families of Modular Forms In *Graduate Student Number Theory Seminar, University of Illinois at Urbana-Champaign*, February 2018.
- [6] Deformation theory of Galois representations, In *Graduate Algebraic Geometry Seminar, University of Illinois at Urbana-Champaign*, November 2017.
- [7] p -adic Families of Modular Forms In *Graduate Student Number Theory Seminar, University of Illinois at Urbana-Champaign*, February 2018.
- [8] Moduli of Abelian Varieties in Positive Characteristic, In *Graduate Algebraic Geometry Seminar, University of Illinois at Urbana-Champaign*, November 2017.

Completed Projects

- [1] Senior Project: Stark Conjectures in Rational function fields. Spring 2014

Awards and Honors

- [1] The Sophie Germain award, awarded to a graduating senior "for exemplary passion and extraordinary performance", Colorado College, May 2014
- [2] The IGL Susan Morisato Scholarship, awarded to a graduate mentor for their contributions to the Illinois Geometry Lab, May 2018
- [3] The Departmental TA instructional Award, awarded to a graduate student for excellence in teaching, University of Illinois, May 2019

Conferences and Workshops attended

- [1] SIAM Conference on Applied Algebraic Geometry, *Colorado State University, Fort Collins*, August 2013
- [2] Illinois Number Theory Conference , *University of Illinois, Urbana-Champaign* August 2015
- [3] Summer School in Explicit Methods for Abelian Varieties, *University of Calgary, Calgary*, June 2016
- [4] Arizona Winter School in Arithmetic Geometry (Perfectoid Spaces), *University of Arizona, Tucson*, March 2017
- [5] Midwest Algebraic Geometry Graduate Conference, *University of Illinois, Chicago*, April 2017
- [6] Arizona Winter School in Arithmetic Geometry (Iwasawa Theory), *University of Arizona, Tucson*, March 2018
- [7] Arithmetic of Algebraic Curves, *University of Wisconsin-Madison*, April 2018
- [8] School in Arithmetic Geometry, *University of Duisburg-Essen, Germany*, September 2018
- [9] Popup conference in Number Theory, *University of Illinois, Chicago*, November 2018
- [10] Arithmetic and Geometry of Surfaces, *University of Wisconsin-Madison*, February 2019
- [11] Arithmetic of Low-Dimensional Abelian Varieties, *ICERM*, June 2019
- [12] Explicit Methods in Arithmetic Geometry in Characteristic p , *AMS Mathematical Research Community*, June 2019