Ravi Donepudi

📞 *(619) 618 5614*
✉ *donepud2@illinois.edu*
🖥 *ravi-donepudi.github.io*
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 examine which abelian varieties arise as Jacobians of smooth curves in positive characteristic. I am also interested in counting points on curves over finite fields, computing their Newton polygons and the vanishing of their L-functions at points of arithmetic interest.

Publications and Presentations

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. *To appear in the Simons Symposia proceedings volume for the Simons Collaboration "Arithmetic Geometry, Number Theory and Computation*.

[3] The vanishing of ℓ-th order Dirichlet characters over function fields at the central point, with Wanlin Li. *Submitted*.

Presentations

[1] Abelian varieties not isogenous to a hyperelliptic jacobian, In *AMS Special Session on Explicit Methods in Arithmetic Geometry, JMM, Denver*, January 2020.

[2] Combinatorial Approaches To Geometry Over Finite Fields, In *Special Session on Experimental Mathematics in Number Theory and Combinatorics, Fall Southeastern Sectional Meeting, University of Illinois at Urbana-Champaign*, November 2019.

[4] p-adic Families of Modular Forms In *Graduate Student Number Theory Seminar, University of Illinois at Urbana-Champaign*, February 2018.

[3] Moduli of Abelian Varieties in Positive Characteristic, In *Graduate Algebraic Geometry Seminar, University of Illinois at Urbana-Champaign*, November 2017.

[5] Deformation theory of Galois representations, In *Graduate Algebraic Geometry Seminar, University of Illinois at Urbana-Champaign*, March 2017.

[7] The Functional Equation of the Dedekind Zeta Function of a Number Field. In *Graduate Student Number Theory Seminar, University of Illinois at Urbana-Champaign*, October 2016.

[8] Analogues of Cyclotomic Extensions in Function Fields. In *Algebraic Geometry Seminar, University of Illinois at Urbana-Champaign*, October 2014.

[9] Counting Cubic Extensions of Function Fields with given Quadratic Resolvent. In *Pikes Peak Regional Undergraduate Mathematics Conference, University of Colorado*, February 2014.

[10] Stark Conjectures in Rational Function Fields. At *Colorado College*, April 2013.

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