

DEPARTMENT OF MATHEMATICS, BARD COLLEGE
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JOHN CULLINAN

- personal** Born July 25, 1977
United States Citizen
- education** **University of Massachusetts Amherst**
Ph.D. in Mathematics, May 2005
Bates College
A.B. in Mathematics and Physics, May 1999
- appointments** **Bard College**
Mathematics Department Chair 2014 – 2017
2018 –
Associate Professor 2014 – (sabbatical 2017-18 AY)
Assistant Professor 2008 – 2014 (sabbatical Fall 2011)
Visiting Assistant Professor 2006 – 2008
Colby College
Visiting Assistant Professor 2005 – 2006
- research interests** **Number Theory:** Abelian Varieties, Galois Representations, Orthogonal Polynomials
Group Theory: Modular Representations, Finite Classical Groups
Miscellaneous: Voting Theory
- in preparation** **On a probabilistic local-global principal for torsion on elliptic curves**
John Cullinan, John Voight
Divisibility of torsion subgroups on abelian surfaces over number fields
John Cullinan
- currently under review** **The group structure of ℓ -isogenous elliptic curves in towers of finite fields**
John Cullinan – Submitted 2018
Fixed-point subgroups of $GL_3(q)$
John Cullinan – Submitted 2018
- appeared/ to appear** **On the Jacobians of curves defined by Generalized Laguerre Polynomials.**
John Cullinan
To Appear in Experimental Mathematics.
Voting with partially ordered preferences.
John Cullinan, Sam Hsiao
To appear in Mathematics and Social Justice: Perspectives and Resources for the College Classroom. G. Karaali & L. Khadavi, Ed.

publications
(cont'd)

Algebraic properties of Kaneko-Zagier lifts of supersingular polynomials.

John Cullinan, Farshid Hajir
Proceedings of the American Mathematical Society. **145**, (6), 2291-2304 (2017)

Real preimages of duplication on elliptic curves.

John Cullinan
Missouri Journal of Mathematical Sciences, **29**, (1), 19-26 (2017)

On the Newton polygons of Kaneko-Zagier lifts of supersingular polynomials.

John Cullinan, [Rylan Gajek-Leonard](#)
Research in Number Theory, **2**(1), 1-16 (2016)

On the solution to a generalized Fermat equation: arithmetic and combinatorics.

Amir Barghi, John Cullinan
Journal of Combinatorics and Number Theory. **7** (2015), no. 3 157–169

pretenure ↓

Arithmetic properties of generalized Rikuna polynomials.

[Zev Chonoles](#), John Cullinan, [Hannah Hausman](#), Allison Pacelli, [Sean Pegado](#), [Fan Wei](#)
Publications Mathématiques de Besançon: Algèbre et Théorie des Nombres. **1** (2014) 19–33

On the Galois groups of Legendre Polynomials.

John Cullinan, Farshid Hajir
Indagationes Mathematicae. **25** (2014) 534–552

A Borda count procedure for partially ordered ballots.

John Cullinan, Sam Hsiao, [David Polett](#)
Social Choice and Welfare. **42** (2014) no. 4 913–926

On the ranks of the Jacobians of curves defined by Jacobi Polynomials.

John Cullinan, [Anastassia Etropolski](#), Elizabeth Sell
Rocky Mountain Journal of Mathematics **44** (2014), no. 1 23-33

Specializations of generalized Rikuna polynomials.

[Celeste Cass](#), John Cullinan, [Alexander Rasmussen](#), [Darko Trifunofski](#)
International Journal of Number Theory **10** (2014), no. 3 585–600

Primes of prescribed congruence class in short intervals.

John Cullinan, Farshid Hajir
Integers **12** (2012) #A56.

Symplectic stabilizers with applications to abelian varieties.

John Cullinan
International Journal of Number Theory **8** (2012), no. 2, 321-334.

Ramification in iterated towers for rational functions.

John Cullinan, Farshid Hajir
Manuscripta Mathematica **137** (2012), no. 3-4, 273-286.

Points of small order on three-dimensional abelian varieties.

John Cullinan, Appendix by Yuri Zarhin
Journal of Algebra **324** (2010), 565-577.

A computational approach to the 2-torsion structure of abelian threefolds.

John Cullinan
Mathematics of Computation **78** (2009), 1825-1836.

Algebraic properties of a family of Jacobi polynomials.

John Cullinan, Farshid Hajir, Elizabeth Sell
Journal de Théorie des Nombres de Bordeaux **21** (2009), no. 1, 71-82.

Local-global properties of torsion points on three-dimensional abelian varieties.

John Cullinan
Journal of Algebra **311** (2007), no. 2, 736-774.

professional
service

Reviewer for AMS Math Reviews: 54 papers, 1 book

Reviewer for MAA Reviews: 3 books

Journal and Grant Refereeing: Finite Fields and Applications,
American Mathematical Monthly, New York Journal of Mathematics,
Publicationes Mathematicae Debrecen, Contemporary Mathematics,
Journal of Number Theory, IdEx Bordeaux International Post-Doctoral Program,
Iranian Journal of Mathematical Sciences and Informatics, Pi Mu Epsilon

WAMC Academic Minute (2015) [link](#)

Conferences/Sessions Organized:

Arithmetic Dynamics and Galois Theory, AMS Spring Sectional, Boston College (2013)

MAA PrEP: Algebraic Number Theory (w/ A. Pacelli), Williams College (2010)

Algebraic Number Theory, AMS Spring Sectional, Worcester Polytechnic Institute (2009)

recent
workshops

Arithmetic Geometry, Number Theory, and Computation

MIT, Summer 2019

Birational Geometry and Arithmetic.

ICERM, Spring 2018

Modular Forms and Curves of Low Genus: Computational Aspects.

ICERM, Fall 2015

invited talks
(post-tenure)

Special Session, AMS/MAA Joint Meetings, Baltimore (2019)

Special Session, AMS Sectional Meeting, Boston (2018)

Number Theory Seminar, Dartmouth College (2018)

Special Session, AMS/MAA Joint Meetings, San Diego (2018)

Five College Number Theory Seminar, Amherst College (2017)

Philadelphia Area Number Theory Seminar, Bryn Mawr College (2017)

Departmental Colloquium, Williams College (2016)

Number Theory Seminar, CU Boulder (2015)

Special Session, AMS/MAA Joint Meetings, San Antonio (2015)

Special Session, AMS Sectional Meeting, UNC Greensboro (2014)

at bard college

21 Senior Projects Advised (2006 – 2017); **3** Advised in 2018-19

Post-Tenure Service (2014 – present):

Divisional Evaluator for Robert McGrail (promotion, 2018 – 2019)

Mathematics Department Chair (2014 – 2017)

Taught **Uncertainty and Variation** in the inaugural Modern Literacy Initiative (2014 – 2017)

Hiring Committee for Tenure-Track Position in Mathematics (2015 – 2016)

Hiring Committee for Tenure-Track Position in Mathematics (Chair, 2014 – 2015)

First Year Seminar Symposium Mentor (2014 – 2015)

AAUP Executive Committee (2014)

Pre-Tenure Divisional Evaluator for Bruce Robertson (2014)

Fellowships and Awards Committee (2014 – 2015)

other skills

Computer: Pari/GP, Magma, \LaTeX , HTML, Unix/Linux, Python, Sage, Mathematica

Languages: English, French (conversational), Vietnamese (beginner)

Recreational: Bicycle Racing (Road, TT, Mountain, and Cyclocross)

(last updated July 2, 2018)