

Robert Harron

Tenure-Track Assistant Professor
Department of Mathematics
University of Hawai'i at Mānoa

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CITIZENSHIP: Canadian, with American permanent residency

RESEARCH: Algebraic number theory, Iwasawa theory, arithmetic statistics.

POSITIONS:

08/2014 – Present **Tenure-Track Assistant Professor**
University of Hawai'i at Mānoa

08/2012 – 08/2014 **Van Vleck Visiting Assistant Professor and RTG Postdoctoral Fellow**

08/2011 – 08/2012 **Visiting Assistant Professor**
University of Wisconsin–Madison

09/2009 – 08/2011 **Postdoctoral Faculty Fellow and Instructor**
Boston University

EDUCATION

2004 – 2009 **PhD in Mathematics, Princeton University**
Thesis: *L*-invariants of some low symmetric powers of modular forms and Hida deformations
Advisor: Andrew Wiles

2000 – 2004 **BSc First Class Honours in Mathematics and Physics, McGill University**

PUBLICATIONS

- *Explicit computations of Hida families via overconvergent modular symbols*
with Evan P. Dummit, Márton Hablicsek, Lalit Jain, Robert Pollack, and Daniel Ross
Research in Number Theory 2:25 (2016), doi: [10.1007/s40993-016-0052-8](https://doi.org/10.1007/s40993-016-0052-8)
- *The shapes of pure cubic fields*
In *Proceedings of the American Mathematical Society* **145**, no. 2 (2017)
doi: [10.1090/proc/13309](https://doi.org/10.1090/proc/13309)
- *Iwasawa theory for symmetric powers of CM modular forms at non-ordinary primes, II*
with Jonathan Pottharst, in *Journal de Théorie des Nombres de Bordeaux* **28**, no. 3 (2016)
doi: [10.5802/jtnb.957](https://doi.org/10.5802/jtnb.957)
- *Counting elliptic curves with prescribed torsion*
with Andrew Snowden, in *Journal für die reine und angewandte Mathematik* **729** (2017)
doi: [10.1515/crelle-2014-0107](https://doi.org/10.1515/crelle-2014-0107)
- *On symmetric power L-invariants of Iwahori level Hilbert modular forms*
with Andrei Jorza, in *American Journal of Mathematics* **139**, no. 6 (2017)
doi: [10.1353/ajm.2017.0040](https://doi.org/10.1353/ajm.2017.0040)
- *Gauss–Manin connections for p-adic families of nearly overconvergent modular forms*
with Liang Xiao, in *Annales de l'Institut Fourier* **64**, no. 6 (2014)
doi: [10.5802/aif.2916](https://doi.org/10.5802/aif.2916)

- *Iwasawa theory for symmetric powers of CM modular forms at non-ordinary primes* with Antonio Lei, in *Journal de Théorie des Nombres de Bordeaux* **26**, no. 3 (2014) doi: [10.5802/jtnb.885](https://doi.org/10.5802/jtnb.885)
- *The exceptional zero conjecture for symmetric powers of CM modular forms: the ordinary case* In *International Mathematics Research Notices* **2013**, no. 16, art. ID rns161, doi: [10.1093/imrn/rns161](https://doi.org/10.1093/imrn/rns161)
- *On Greenberg's L-invariant of the symmetric sixth power of an ordinary cusp form* In *Compositio Mathematica* **148**, no. 4 (2012), doi: [10.1112/S0010437X12000176](https://doi.org/10.1112/S0010437X12000176)

AWARDS AND GRANTS

| | |
|-----------|---|
| 2016–2021 | Simons Collaboration Grant |
| 2013–2015 | NSA Young Investigator Grant |
| 2012 | Honored Instructor Teaching Award |
| 2006–2009 | FQRNT Doctoral Fellowship |
| 2004–2006 | FQRNT Masters Fellowship |
| 2004–2006 | NSERC Postgraduate Scholarship (awarded, but accepted FQRNT instead) |
| 2003 | NSERC Undergraduate Summer Research Award |
| 2002 | NSERC Undergraduate Summer Research Award |

TEACHING EXPERIENCE

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|-------------|---|
| Fall 2017 | MATH 649: Topics: Arithmetic Statistics and Bhargavology |
| Spring 2017 | MATH 243: Calculus III |
| | MATH 661: Introduction to Algebraic Number Theory |
| Fall 2016 | MATH 412: Introduction to Abstract Algebra |
| Spring 2016 | MATH 480: Senior Seminar |
| | MATH 612: Modern Algebra II |
| Fall 2015 | MATH 611: Modern Algebra I |
| Spring 2015 | MATH 242: Calculus II |
| | MATH 411: Linear Algebra |
| Fall 2014 | MATH 242: Calculus II |
| | Dept. of Mathematics, University of Hawai'i at Mānoa |
| Spring 2014 | MATH 847: Topics in Algebra: Modular Forms and their Arithmetic |
| Fall 2013 | MATH 475: Introduction to Combinatorics |
| Spring 2013 | MATH 340: Elementary Matrix and Linear Algebra |
| Fall 2012 | MATH 541: Modern Algebra |
| Spring 2012 | MATH 217: Calculus with Algebra and Trigonometry II (two sections) |
| Fall 2011 | MATH 221: Calculus and Analytic Geometry (two sections) |
| | Dept. of Mathematics, University of Wisconsin–Madison |
| Spring 2011 | MA 341: Introduction to Number Theory |
| Fall 2010 | MA 123: Calculus I |
| Spring 2010 | MA 542: Modern Algebra II |
| Fall 2009 | MA 142: Introduction to Linear Algebra |
| | Dept. of Mathematics and Statistics, Boston University |
| Spring 2009 | MAT 218: Analysis in Several Variables |
| Fall 2009 | MAT 201: Multivariable Calculus |
| Fall 2007 | MAT 203: Advanced Multivariable Calculus |
| | Dept. of Mathematics, Princeton University |

ADVISING

Students: **PhD: 3 (3 current) MA: 1 (1 current)**
Fall 2014 – Fall 2017 **MATH 699: Directed Reading and Research**
 Reading course on Algebraic Number Theory
 Learning seminar on L -functions
 Reading course on Modular Forms (twice)
 Reading course on Galois Representations
 Reading course on Quadratic Forms (twice)
Spring 2011 **MA 944: Directed Study in Number Theory II**
 Reading course on Algebraic Number Theory
Fall 2009 **MA 648: Research Methods in Mathematics II**
 Advised a student on representing integers by quadratic forms

INVITED TALKS

2017 **Conference: Mathematical Congress of the Americas**
 University of Washington Number Theory Seminar
 Brown University Algebra Seminar
 Tufts University Algebra, Geometry, and Number Theory Seminar
 Conference: AMS/MAA Joint Mathematics Meetings
2016 **Conference: Congreso Latinoamericano de Matemáticos V**
 Conference: Canadian Number Theory Association, 14th meeting
 Duke University Number Theory Seminar
2015 **AMS/MAA Joint Mathematics Meetings**
2014 **Conference: Atkin Memorial Workshop**
 University of Hawai'i at Mānoa Special Colloquium
 Eastern Illinois University Special Colloquium
 University of Notre Dame Special Colloquium
 University of Illinois at Urbana–Champaign Special Colloquium
2013 **Université Laval Séminaire d'algèbre et de théorie des nombres**
 Boston University Number Theory Seminar
 University of Illinois at Chicago Number Theory Seminar
 University of North Carolina at Chapel Hill Number Theory Seminar
 Conference: Modular forms, p -adic L -functions and Selmer groups
 University of Chicago Number Theory Seminar
 Northwestern University Number Theory Seminar
 Conference: Sage Days 44
 Québec–Vermont Number Theory Seminar
 Université Laval Séminaire d'algèbre et géométrie gradué
2012 **University of Washington Number Theory Seminar**
 University of Washington Sage Seminar
 University of Chicago Number Theory Seminar
 California Institute of Technology Number Theory Seminar
 Joint Columbia–CUNY–NYU Number Theory Seminar
2011 **University of Wisconsin–Madison Number Theory Seminar**
 Brandeis University Everytopic Seminar
 University of Michigan, Ann Arbor GLNT Seminar
2010 **University of Texas at Austin Number Theory Seminar**
2009 **Boston University Number Theory Seminar**
 Wesleyan Departmental Colloquium
 Boston University Number Theory Seminar

CONFERENCES ORGANIZED OR COORGANIZED

2013 Sage Days 44

SEMINARS ORGANIZED OR COORGANIZED

- 09/2016 – 12/2016 **Seminar on L -functions**
09/2015 – 05/2016 **Number Theory Lunch Meeting**
University of Hawaii‘i at Mānoa
09/2011 – 05/2014 **Number Theory/Representation Theory Seminar**
09/2011 – 05/2014 **Graduate Student Number Theory/Representation Theory Seminar**
10/2012 – 02/2013 **Learning Seminar on Shimura Varieties**
University of Wisconsin–Madison
09/2009 – 05/2011 **Algebra/Number Theory Seminar**
01/2011 – 05/2011 **Graduate Student Étale Cohomology Seminar**
07/2010 – 12/2010 **Seminar on p -adic L -functions**
01/2010 – 05/2010 **Seminar on p -adic Hodge Theory and (φ, Γ) -modules**
Boston University
09/2004 – 05/2009 **Several graduate student seminars**
Princeton University