

Jenny Roberts

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Fields of interest

Modular forms, Eisenstein congruences, Lattices, Algebraic Number Theory.

Publications and preprints

1. *Newform Eisenstein congruences of local origin* (with Dan Fretwell) (2024)
23 pages, The Ramanujan Journal, Vol. 64, pages 505–527.
2. *Symmetric bilinear forms, superalgebras and integer matrix factorization* (with Dan Fretwell) (2024)
19 pages, Linear Algebra and its Applications, Vol. 700, pages 61-79.
3. *Hilbert newform Eisenstein congruences of local origin* (with Dan Fretwell) (in preparation)

Education

University of Bristol

PhD Student (2021-Present)

Funded by the Heilbronn Doctoral Partnership.

Advised by Dan Fretwell.

University of Durham

MMath Degree, 1st Class (2016-2020)

Master's project: "A pathway from the Game of Nim to Monstrous Moonshine passing through Codes, Lattices and Modular Forms".

Advised by Sam Fearn.

Work Experience

University of Bristol

Graduate Teacher (2021-2024)

Perspectives in Mathematics moderator (2021)

Intro to Group Theory exam marker (2022)

Linear Algebra exam marker (2023)

Linear Algebra teaching assistant (2023-2024)

Heilbronn Institute

Summer Workshop participant (2022- 2024)

Seminar Talks

King's College London

London Junior Number Theory Seminar

(Jun 2024)

Newform Eisenstein Congruences of Local Origin

University of Bristol

The GWNT Seminar

(Apr 2024)

Newform Eisenstein Congruences of Local Origin

University of Bristol

Linfoot Seminar

(Feb 2023)

Newform Eisenstein Congruences of Local Origin

University of Warwick

Warwick Junior Number Theory Seminar

(Jan 2023)

Newform Eisenstein Congruences of Local Origin

Conference Talks

University of Cambridge

Young Researchers in Algebraic Number Theory (Y-RANT)

(Sep 2023)

Newform Eisenstein Congruences of Local Origin

Louisiana State University

35th Automorphic Forms Workshop

(May 2023)

Newform Eisenstein Congruences of Local Origin

Chesterfield, Derbyshire

Women in Number Theory and Geometry Spring Retreat (WINGs)

(Apr 2023)

Matrix superalgebras and lattice isometry

University of Glasgow

Young Researchers in Algebraic Number Theory (Y-RANT)

(Aug 2022)

Newform Eisenstein Congruences of Local Origin

Other talks

University of Bristol

Underrepresented genders in maths

(Nov 2023)

Why I care about modular forms

University of Bristol

Mathematics Subgroup of the Heilbronn Institute visit

(Nov 2022)

Ramanujan-style Congruences of Local Origin

Conferences Attended

University of Oxford

Clay Research Workshop (New Advances in the Langlands Program: Geometry and Arithmetic) (Sep 2024)

Cetraro, Italy

Journal of Number Theory 3rd Biennial Conference (Aug 2024)

University of Bristol

The Great Western Number Theory Seminar (Apr 2024)

Shrewsbury, UK

Women in Number Theory and Geometry Spring Retreat (WINGs) (Apr 2024)

University of Cambridge

Young Researchers in Algebraic Number Theory (Y-RANT) (Sep 2023)

Louisiana State University

35th Automorphic Forms Workshop (May 2023)

CIRM, Luminy

Spring School in Arithmetic Statistics (May 2023)

Chesterfield, UK

Women in Number Theory and Geometry Spring Retreat (WINGs) (Apr 2023)

University of Oxford

The Great Western Number Theory Seminar (Jan 2023)

University of Bristol

The Great Western Number Theory Seminar (Nov 2022)

King's College London

Warwick-Oxford-Manchester-Bristol-London (WOMBL) (Sep 2022)

University of Glasgow

Young Researchers in Algebraic Number Theory (Y-RANT) (Aug 2022)

University College London

Early Careers Researchers in Mathematics (Jun 2022)

West Lexham, UK

Women in Number Theory and Geometry Spring Retreat (WINGs) (Jun 2022)

Virtual Conference

34th Automorphic Forms Workshop (Mar 2022)

Event organising

Conference organiser

Women in Number Theory and Geometry Spring Retreat (WINGs IV) (April 2024)

Number theory day (one day internal conference at University of Bristol) (January 2023)

Seminar organiser

Linfoot seminar (April 2023 - March 2024)

Miscellaneous

Programming: Experience using MAGMA, Python, C and LaTeX.

Outreach: Panellist at Underrepresented genders in mathematics (University of Bristol, November 2021),
Lightning talk at Underrepresented genders in mathematics (University of Bristol, November 2023).