

Andrei Seymour-Howell

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Education

2019–Present PhD in Mathematics, University of Bristol. Supervised by Andrew Booker.
2015–2019 MMath, University of Nottingham.

Research Interests

Automorphic forms, computational number theory, L-functions, trace formula.

Publications and Preprints

- [1] Rigorous computation of Maass cusp forms of squarefree level. *Research in Number Theory, ANTS XV collection*, 8, 10 2022
- [2] (With Ce Bian, Andrew Booker, Austin Docherty and Michael Jacobson, Jr.). Unconditional computation of the class groups of real quadratic fields. In preparation
- [3] (With David Lowry-Duda). Rigorous implementation of Hejhal’s algorithm. In preparation

Talks

- *Numerical computations of Maass cusp forms*, Canberra Number Theory Seminar, UNSW Canberra, October 2022.
- *Numerical verification of Maass cusp forms*, Automorphic Forms Conference, Erdős Center, Rényi Institute, September 2022.
- *Numerical verification of Maass cusp forms*, ELAZ conference, Poznan University, August 2022.
- *Numerical verification of Maass cusp forms*, Algorithmic Number Theory Symposium (ANTS) XV, University of Bristol, August 2022.
- *Numerical verification of Maass cusp forms*, Early Career Researchers in Mathematics, University College London, June 2022.
- *Numerical computations of Maass cusp forms*, Young Researchers in Mathematics, University of Bristol, June 2021.
- *Numerical computations of Maass cusp forms*, London Junior Number Theory Seminar, University College London, May 2021.
- *Numerical verification of Maass cusp forms*, Linfoot Seminar, University of Bristol, April 2021.
- *The magic of 0x5f3759df*, Postgraduate Seminar, University of Bristol, March 2021.
- *Numerical computations of the Riemann zeta function*, Postgraduate Seminar, University of Bristol, March 2020.

Teaching

Spring 2022 Teaching assistant, University of Bristol; 3rd year undergraduate course “Number Theory”.

Autumn 2020 Demonstrator, University of Bristol; 3rd year undergraduate course “Perspectives in Mathematics”.

Autumn 2020 Teaching assistant, University of Bristol; 1st year undergraduate course “Mathematics 1A20”.

Autumn 2019– Spring 2020 Teaching assistant, University of Bristol; 1st year undergraduate course “Linear Algebra”.

Autumn 2016– Spring 2017 Pass Leader, University of Nottingham.

Conferences attended

Nov. 2022 *The Great Western Number Theory Seminar* - University of Bristol.

Sep. 2022 *Automorphic Forms Conference* - Erdős Center, Rényi Institute, Budapest.

Aug. 2022 *Automorphic Forms Summer School* - Erdős Center, Rényi Institute, Budapest.

Aug. 2022 *Elementary and Analytic Number Theory (ELAZ) 2022* - Poznan University.

Aug. 2022 *Algorithmic Number Theory Symposium (ANTS) XV* - University of Bristol.

Jul. 2022 *Number Theory Informed by Computation, PCMI Graduate Summer School* - Park City Mathematics Institute, Utah.

Jun. 2022 *Early Career Researchers in Mathematics* - University College London.

Apr. 2022 *The Great Western Number Theory Seminar* - University of Bath.

Apr. 2022 *Warwick-Oxbridge-Manchester-Bristol-London (WOMBL)* - University of Oxford.

Jun. 2021 *Young Researchers in Algebraic and Analytic Number Theory* - University of Bristol.

Jun. 2021 *Young Researchers in Mathematics* - University of Bristol.

Jul. 2020 *Algorithmic Number Theory Symposium (ANTS) XIV* - University of Auckland.

Jun. 2020 *Automorphic Forms Conference* - Erdős Center, Rényi Institute, Budapest.

Nov. 2019 *Young Researchers in Algebraic and Analytic Number Theory* - University of Warwick.

Awards

2018 *IMA prize* - University of Nottingham.

2015–2017 *School achievement prize 3 times* - University of Nottingham.

Service

2022–Present *Co-organiser of Linfoot Seminar* - University of Bristol.

2021–2022 *Co-organiser of Pre-Heilbronn Seminar* - University of Bristol.

2021 *Co-organiser of Young Researchers in Algebraic and Analytic Number Theory conference 2021* - University of Bristol.

2020 *Co-organiser of MINGLE 2020 (Annual Bristol postgraduate conference)* - University of Bristol.

Programming

Proficient in C, Python and SageMath, Experience using Pari/GP, Julia and MATLAB.