

BAILEY WHITBREAD

Address: School of Mathematics and Physics,
The University of Queensland, St Lucia, Australia.
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Website: www.baileywhitbread.com.

RESEARCH INTERESTS

Representation theory, algebraic geometry, finite groups of Lie type.

EDUCATION

Master of Philosophy January 2022 - December 2023
The University of Queensland Brisbane, Australia
Advisors: Masoud Kamgarpour, Ole Warnaar.
Topic: Arithmetic geometry of representation varieties.
Scholarships: UQ Graduate School and Research Training Program Scholarship.

Bachelor of Mathematics, First Class Honours January 2017 - June 2021
The University of Queensland Brisbane, Australia
Advisors: Masoud Kamgarpour, Anna Puskás.
Thesis: Hecke algebras and Gelfand pairs in representation theory.
Scholarships: UQ Academic Merit Scholarship, UQ Link Scholarship, and Smith Family Tertiary Scholarship.
Awards: UQ Dean's Commendations for Academic Excellence.

Certificate of Education January 2012 - November 2016
Maroochydore State High School Maroochydore, Australia
Result: Australian Tertiary Admissions Rank 99.00+.
Awards: High Distinctions in the Australian Mathematics Trust's Australian Mathematics Competition, and QCAA Academic Commendation for Very High Achievement (under Bailey Page).

WORK AND SERVICE

Organiser 2023 - ?
UQ Maths Graduate Student Seminar Brisbane, Australia
Seminar fostering interdisciplinary relations.

Co-organiser 2023
Weil Conjectures Lecture Series Brisbane, Australia
Australia-wide Zoom lecture series taught by Masoud Kamgarpour and Angus McAndrew. Managed lecture notes.

Simon Marais Mathematics Competition Marker 2022
International competition for undergraduates. Coordinated by Sean Gardiner.

UQ/QAMT Problem Solving Competition Marker 2022
State competition for high school students. Coordinated by Michael Bulmer.

Question-drafter 2021 - 2023
 UQ Maths Relay Brisbane, Australia
 Welcome event for undergraduates coordinated by Ramiro Lafuente, Ole Warnaar and Masoud Kamgarpour.

UQ Exam Marker 2021 - 2023
 First and second year algebra and analysis courses.

UQ Research Assistant 2021
 Working with students to improve clarity in their mathematical writings.

UQ Tutorial Assistant 2019 - 2023
 I may have been your tutor for the following:

MATH3303 Abstract Algebra & Number theory,
 MATH2401 Mathematical Analysis & Advanced Topics,
 MATH2400 Mathematical Analysis,
 MATH2301 Linear & Abstract Algebra & Number Theory,
 MATH2001 Calculus and Linear Algebra II,
 MATH1071 Advanced Calculus & Linear Algebra I,
 MATH1061 Discrete Mathematics,
 MATH1052 Multivariate Calculus & Ordinary Differential Equations,
 MATH1051 Calculus & Linear Algebra I, and
 First Year Learning Centre.

Some tutor evaluations written by students of MATH3303:

'Bailey was extremely knowledgeable in the subject, easily approachable, and is among one of the best tutors I've ever had during my time at UQ. From him, I have learnt not only course content, but how to be an effective educator.'

'Bailey has been hands-down the best maths tutor I have had. He was extremely approachable, and always encouraged questions. He would explain the theory very clearly and always made sure you had a good understanding of the concepts. This course would have been a lot harder without him as a tutor!'

'Bailey was very helpful and professional in the tutorials. He offered excellent help to all students and explained the challenging assignment questions with great clarity and insight.'

'Bailey is really good at putting different ideas into a wider context in algebra which can help guide intuition and also helps students gain a wider appreciation of what we are studying.'

Volunteer tutor 2019
 UQ Queensland Mathematics Summer School Brisbane, Australia
 Summer school for senior high school students, 5 days.

President and Vice President <i>UQ Mathematics Students Society</i>	2017 - 2019 Brisbane, Australia
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TALKS

Arithmetic, geometry & polynomials in the variable q <i>UQ Mathematics Students Society</i>	August 2023 Brisbane, Australia
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Arithmetic, geometry & polynomials in the variable q <i>UQ Maths Graduate Student Seminar</i>	July 2023 Brisbane, Australia
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Counting points on representation varieties <i>MPhil Confirmation Talk</i>	February 2023 Brisbane, Australia
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Counting points on representation varieties <i>66th Annual Meeting of the Australian Mathematical Society</i>	December 2022 Sydney, Australia
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The representation variety and its E-polynomial <i>AMSI Winter School 2022</i>	July 2022 Brisbane, Australia
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Hecke algebras and Gelfand pairs in representation theory <i>Honours Final Talk</i>	May 2021 Brisbane, Australia
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Kinky sets <i>UQ Mathematics Students Society</i>	Mar 2021 Brisbane, Australia
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Characteristic classes and Chern classes <i>Coursework</i>	Oct 2020 Brisbane, Australia
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The Twin Prime and Elliot–Halberstam Conjectures <i>Coursework</i>	Oct 2020 Brisbane, Australia
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Sieve methods <i>Coursework</i>	Aug 2020 Brisbane, Australia
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The Dirichlet function <i>UQ Mathematics Students Society</i>	Mar 2019 Brisbane, Australia
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EVENTS, SEMINARS, WORKSHOPS, ETC.

You may have met me at the following events:

67th Annual Meeting of the Australian Mathematical Society	December 2023
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UQ Flag Varieties Seminar	June 2023 - ?
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Differential Geometry Days @ UQ	February 2023
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66th Annual Meeting of the Australian Mathematical Society	December 2022
Number Theory Down Under 10	September 2022
AMSI Winter School <i>New Directions in Representation Theory</i>	June 2022
ANU Workshop <i>Character Varieties, E-Polynomials and Representation Zeta Functions</i>	February 2022
UQ Maths Stradbroke Island Workshop <i>Introduction to Character Varieties</i>	December 2021
UQ Maths Heron Island Workshop <i>Geometry, Representation Theory and the Kempf–Ness Theorem</i>	June 2021
UQ Maths Stradbroke Island Workshop	February 2021
UQ ‘What is...?’ (Wise) Seminar	March 2021 - November 2022