

Bradley Ryan

Postgraduate Mathematics Student

* April 10th 1998
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About

I am a PhD student at the University of Leeds in the School of Mathematics. My primary interests are in **representation theory** and **integrable systems**. The focus of my postgraduate research has been on representations of Cherednik algebras, and how this relates to quiver and character varieties. Outside of work, I enjoy swimming, going to the gym and hiking. I love playing piano, but you'll not find me on stage anytime soon!

Education

- 2020 – Present **PhD in Pure Mathematics**, University of Leeds
Supervisors: Dr Oleg Chalykh (lead), Professor Karin Baur.
- 2016 – 2020 **MMath, BSc Mathematics**, University of Leeds
Grade: First Class Honours (86%).

Papers

- In Preparation **Double Affine Hecke Algebras of Type $C^{\vee}C_n$ and Calogero-Moser Spaces**, [with Oleg Chalykh], preprint to appear soon.

Talks

- 15/11/2023 **Double Affine Hecke Algebras and Calogero-Moser Space**
Junior London Algebra Colloquium, City, University of London.
- 24/10/2023 **Double Affine Hecke Algebras and Character Varieties**
Leeds Algebra Seminar, University of Leeds.
- 14/06/2023 **Character Varieties and Symmetric Polynomials**
School of Mathematics Postgraduate Research Conference, University of Leeds.
- 17/06/2022 **A Deligne-Simpson Problem**
School of Mathematics Postgraduate Research Conference, University of Leeds.
- 18/11/2021 **Representations of Quivers via Double Affine Hecke Algebras**
Pure Mathematics Postgraduate Research Seminar (online), University of Leeds.
- 06/05/2021 **Knots and the Fundamental Group**
Pure Mathematics Postgraduate Research Seminar (online), University of Leeds.

Conferences and Workshops

An asterisk * indicates I was in receipt of some form of financial support from the organisers

- Mar 2024 **Painlevé Equations and Related Topics**, Edinburgh/Heriot-Watt (online).
- Jun 2023 **Dualities and Symmetries in Integrable Systems***, Isle of Skye.
- Jun 2023 **School of Mathematics Postgraduate Research Conference**, Leeds.
- May 2023 **Poisson and Quantum Structures in Integrable Systems**, Leeds.
- Apr 2023 **74th British Mathematical Colloquium**, Bath.

- Mar 2023 **The Geometry of DAHAs and Coulomb Branches***, Edinburgh.
- Aug 2022 **60th ARTIN Meeting**, Nottingham (online).
- Jun 2022 **Poisson Structures and Noncommutative Integrability***, Kent.
- Jun 2022 **School of Mathematics Postgraduate Research Conference**, Leeds.
- May 2022 **ARTIN New Arrivals Meeting***, Edinburgh.
- Mar 2022 **58th ARTIN Meeting**, Manchester (online).
- Mar 2022 **Integrability and Applied Algebraic Geometry**, Edinburgh (online).
- Nov 2021 **Integrable Day**, Loughborough (online).
- Jul 2021 **British Early Career Mathematicians' Colloquium**, Birmingham (online).
- Nov 2020 **Integrable Days**, Loughborough/Edinburgh (online).
- Jul 2019 **London Mathematical Society Undergraduate Summer School**, Leeds.

Teaching

- 2023 – 2024 **Teaching Assistant**, University of Leeds
Responsible for tutorial classes and marking in the following modules:
- MATH1025 Number Systems, Tutor.
 - MATH1026 Sets Sequences and Series, Tutor and Exam Marker.
 - MATH1225 Introduction to Geometry, Tutor and Exam Marker.
 - MATH1400 Modelling with Differential Equations, Exam Marker.
 - MATH2017 Real Analysis, Module Marker.
 - MATH2022 Groups and Vector Spaces, Exam Marker.
 - MATH2027 Rings and Polynomials, Module Marker.
- 2022 – 2023 **Teaching Assistant**, University of Leeds
Responsible for tutorial classes and marking in the following modules:
- MATH1060 Introductory Linear Algebra, Tutor.
 - MATH1225 Introduction to Geometry, Exam Marker.
 - MATH1331 Linear Algebra with Applications, Tutor.
 - MATH1400 Modelling with Differential Equations, Tutor.
 - MATH2027 Rings and Polynomials, Module Marker.
 - MATH3044 Number Theory, Module Marker and Exam Marker.
 - MATH3071 Groups and Symmetry, Exam Marker.
 - MATH3143 Combinatorics, Exam Marker.
- 2021 – 2022 **Teaching Assistant**, University of Leeds
Responsible for tutorial classes and marking in the following modules:
- MATH1005 Core Mathematics, Exam Marker.
 - MATH1025 Number Systems, Exam Marker.
 - MATH1026 Sets, Sequences and Series, Tutor.
 - MATH1331 Linear Algebra with Applications, Tutor.
 - MATH2230 Discrete Mathematics, Exam Marker.

2020 – 2021 **Teaching Assistant**, University of Leeds

Responsible for tutorial classes and marking in the following modules:

- MATH1026 Sets, Sequences and Series, Exam Marker.
- MATH1060 Introductory Linear Algebra, Tutor and Exam Marker.
- MATH1225 Introduction to Geometry, Exam Marker.

2015 – Present **Mathematics Tutor**, Personal

One-on-one tutoring with 25 students at GCSE, A-Level and undergraduate.

Achievements

2020 – 2024 Studentship from the EPSRC (EP/2434194).

2019 Scholarship from the University of Leeds for being a top-ten-performing student.

2018 Scholarship from the University of Leeds for being a top-ten-performing student.

2016 Minerva Cup from Temple Moor High School for best KS5 academic performance.

2015 Achieved a Distinction in ABRSM Grade Five Piano.

2011 Minerva Cup from Temple Moor High School for best KS3 academic performance.

Referees

1. **Dr Oleg Chalykh**, *Lecturer*, Leeds, PhD supervisor:
O.Chalykh@leeds.ac.uk
2. **Professor Allan Fordy**, *Professor*, Leeds, undergraduate personal tutor:
A.P.Fordy@leeds.ac.uk
3. **Dr João Faria Martins**, *Associate Professor (Teaching and Research)*, Leeds, colleague:
J.FariaMartins@leeds.ac.uk