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

31/10/2024	**DAHAs of Type $C^\vee C_n$ and Character Varieties**, [with Oleg Chalykh], preprint, arXiv:2410.23456

Talks

01/11/2024	**DAHA, Character Varieties and van Diejen's System** Leeds Integrable Systems Seminar Series, University of Leeds.
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

May 2024	**Quantisation of Integrable Systems: Old and New**, Leeds.
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**, *Emeritus 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