Hannah Dell

Mathematical Institute and Hausdorff Center for Mathematics, University of Bonn, Germany hdell@math.uni-bonn.de | hannahdell.me

Research interests

Algebraic geometry, derived categories of coherent sheaves, Bridgeland stability conditions, group actions on varieties and triangulated categories, Kuznetsov components, Fano and hyperkähler varieties, moduli spaces, categories associated to quivers.

Employment

Postdoctoral Researcher

September 2024 – August 2026

University of Bonn, Germany (Mentor: Prof. Daniel Huybrechts)

Education

PhD Mathematics

September 2020 – August 2024

University of Edinburgh, UK

Thesis: Stability Conditions and Group Actions, supervised by Prof. Arend Bayer

MMath (1st Class)

September 2016 – August 2020

University of Warwick, UK

Thesis: Schemes and Graded Rings, supervised by Prof. Gavin Brown

Publications and preprints

- 1. Stability conditions on free abelian quotients, arxiv.org/abs/2307.00815, to appear in Épijournal de Géométrie Algébrique
- 2. Cyclic covers: Hodge theory and categorical Torelli theorems (joint with Augustinas Jacovskis and Franco Rota), arxiv.org/abs/2310.13651
- 3. Fusion-equivariant stability conditions and Morita duality (joint with Edmund Heng and Anthony Licata), arxiv.org/abs/2311.06857

Talks

Selected invited talks

CIMPA school: Bridgeland stability and applications, Florianopolis	August 2025
Hyperkähler Workshop, Milan	March 2025
Oberseminar Algebraische und Komplexe Geometrie, Bochum	November 2024
Seminar Algebraic Geometry, Bonn	November 2024
Tale of Geometries Workshop, <i>Brussels</i>	October 2024
Workshop on DT Theory and Derived Categories, Paris	September 2024
Equivariant Derived Categories Seminar, SLMath, Berkeley	March 2024
Wayne State Algebra Seminar, Detroit	March 2024
Geometry and Physics Seminar, Sheffield	February 2024
AG Seminar, Luxembourg	February 2024
Artin Groups meet Triangulated Categories Workshop, Oberwolfach	January 2024
Algebra, Geometry, and Number Theory Seminar, Bath	November 2023
QM Research Seminar, University of Southern Denmark	October 2023
GLEN Workshop on Stability Conditions, Liverpool	September 2023
Algebraic Geometry Seminar, <i>Lille</i>	June 2023

Selected contributed talks

Fano and Hyperkähler Varieties in Genova

Queer In Number Theory and Geometry Workshop, Norfolk

August 2023

Funding

Heilbronn Focused Research Grant

March 2025

awarded

Awarded £3300 to run a collaborative visit in May 2025 at the University of Cambridge for the project "Logarithmic Geometry and Smoothing Bridgeland Stability Conditions" together with Uttaran Dutta, Samuel Johnston, and Patrick Kennedy–Hunt.

Visiting

SLMath: Noncommutative Algebraic Geometry

March - April 2024

positions Program Associate.

Teaching

Tutor (School of Mathematics, University of Edinburgh) January 2021 – August 2024 Running weekly problem sessions and marking assignments for first - third year undergraduate courses on topics including algebra, geometry, and analysis.

Award: Associate Fellow of the Higher Education Academy

Count Me In Tutor (University of Edinburgh)

Summer 2023

Together with Dr. Yoav Len, I supervised a group of 3 undergraduates for a 6-week research project on tropical moduli spaces. This was part of a research program for underrepresented groups in mathematics. I also organised seminars and social events.

Mathematics Undergraduate Supervisor (University of Warwick) 2019 – 2020 Running weekly tutorials and marking assignments for small groups of first years.

Languages

LETEX, LEAN (familiar), English (native), German (B2 equiv.), French (A2 equiv.)

Service and outreach

Maths Outreach Team Member (University of Edinburgh) April 2023 – August 2024 Running monthly maths engagement activities for school children and teachers.

GAeL XXIX, XXX

July 2021 – July 2023

GAeL is an annual workshop for early-career algebraic geometers from across the globe. As part of a team of global organisers, I helped with publicising the event, participant communication, and securing main speakers and funding.

EDGE and Hodge Seminars (University of Edinburgh)

2022 - 2024

In 2023–2024 I co-organised the geometry seminar (EDGE). In 2022–2023, I organised the Hodge pre-seminar. This is an introductory talk to complement the Hodge Seminar - the colloquium for algebra, geometry, number theory and topology.

References

Available upon request