Curriculum Vitae, Robin Bartlett

CONTACT INFORMATION

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RESEARCH INTERESTS

Algebraic number theory, the p-adic Langlands program, and links to geometric representation theory. I am particularly interested in combining tools from integral p-adic Hodge theory and algebraic geometry‘ to study of moduli spaces of p-adic Galois representations.

EMPLOYMENT

University of Glasgow

Rankin-Sneddon fellow, 2023–

University of Münster

Postdoctoral researcher, 2020-2023

Max Planck Institute for Mathematics (Bonn)

Postdoctoral researcher, 2018-2020

EDUCATION

Kings College London and the London School of Geometry and Number Theory

Ph.D. in Mathematics, 2014-2018
Thesis: *On the reduction modulo p of crystalline representations*

- Supervised by Fred Diamond.

University of Warwick

MMath 2010-2014

- Awarded first class degree.

PAPERS

1. *Irreducibility of some crystalline loci with irregular Hodge–Tate weights*
   Submitted 2023
2. *Cycles relations in the affine grassmannian and applications to Breuil–Mézard for G-crystalline representations*
   Submitted 2023
3. *Explicit Serre weights for* GL_2 (with Misja Steinmetz)
   Submitted 2022.
4. *Degenerating products of flag varieties and applications to the Breuil–Mézard conjecture*
   To appear Selecta Mathematica.
5. *Potential diagonalisability of pseudo-Barsotti–Tate representations*
   Journal de Théorie des Nombres de Bordeaux, Volume 35 (2023) no. 2, pp. 335-371.
6. *On the irreducible components of some crystalline deformation rings*
   Forum of Mathematics Sigma, Volume 8, 2020, e22.
7. *Potentially diagonalisable crystalline lifts with controlled Hodge–Tate weights*
   Documenta Mathematica, 26, 795-827, 2021.

8. *Inertial and Hodge–Tate weights of crystalline representation*
Mathematische Annalen, 376(1), 645-681.

Services

- Organised the Summer semester 2022 Oberseminar (study group) on the topic of Modularity lifting theorems.
- Co-organised (with Eugen Hellmann) Münster number theory seminar (Summer 2021).
- Co-founded London junion number theory seminar (2016-2017)
- Referee for journals including Algebra and Number theory, Forum of Math Pi, Ann. Sci. de l'ENS, J. de l'Ecole Poly. Math, J. Théor. Nombres Bordeaux, Documenta Mathematica, and Math. Res. Lett.

Grants

2024 Awarded funding for 1 month visit to the Max Planck Institute for mathematics, Bonn. Value: EU 2500.

2016 Awarded funding by King's College London Global research grant to support a visit to Professor Frank Calegari and Professor Matthew Emerton at University of Chicago. Value: GBP 2000.

Conference talks

- Journées Arithmétiques 2023, Nancy (July 2023)
- Banff International Research Station, Modularity and Moduli Spaces, CMO Oaxaca (Oct. 2019)

Seminar talks

- University of Edinburgh, Algebra seminar (Jan 2024)
- University of Cambridge, Number theory seminar (Jan 2024)
- Jussieu, Séminaire Groupes Réductifs et Formes Automorphes (Nov 2023)
- University of Glasgow, Algebra and Number theory seminar (Nov 2023)
- Queen Mary Number theory seminar (July 2023)
- University of Münster (Sep 2022)
- SUSTech, China (Mar. 2022)
- Université Paris 13 (Feb. 2022)
- University of Chicago Number theory seminar (Oct. 2021)
- Queen Mary University London (Mar. 2021)
- University of Arizona (Feb. 2021)
- University of Münster (Nov. 2020)
- University of Rennes (cancelled) (Jan. 2020)
- University of Leiden (Dec. 2019)
- Essen Arithmetic Geometry Research Seminar (Apr. 2019)
- Max Planck Institute for Mathematics Number Theory Seminar (Apr. 2019)
- Max Planck Institute for Mathematics Oberseminar (Nov. 2018)
- University of Purdue Automorphic Forms and Representation Theory Seminar (May 2018)
- University of Chicago Number Theory Seminar (May 2018)
- Junior London Number Theory seminar (Jan. 2018)
- Junior London Number Theory seminar (Oct. 2016)
- London Number Theory Study groups (2015 - 2018, at least one talk a term)

Awards

2013 Awarded funding from the University of Warwick for a summer research project supervised by Dr. Damiano Testa. Project Title: Galois conjugate polynomials. Value: GBP 1000.

2012 Awarded funding from the University of Warwick for a summer research project supervised by Dr. Daan Krammer. Project Title: The Braid group of $\mathbb{Z}^n$. Value: GBP 1000.

Teaching Experience

University of Glasgow

Calculus side of Maths 1, Winter term 2024

- Lecturer for first year undergraduate course.

Further complex analysis, Winter term 2024

- Course head for fourth year undergraduate course on complex analysis.

University of Münster

Masters course: Deformation theory of Galois representations (Winter semester 2021/22)

- Course aimed at masters and Phd students.

King's College London Mathematics School

Class tutor (2017-2018)

- Taught two groups of 16-17 year old students mathematical problem solving classes.

Languages

English (native), French (reading), German (intermediate).