CONTACT Information Max Planck Institute for Mathematics

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RESEARCH INTERESTS Algebraic number theory, in particular questions relating to p-adic Galois representations and integral p-adic Hodge theory.

EMPLOYMENT

Max Planck Institute for Mathematics (Bonn)

Postdoctoral researcher, 2018-2020

EDUCATION

Kings College London (London School of Geometry and Number Theory)

Ph.D. in Mathematics, 2014-2018

• Supervised by Fred Diamond.

University of Warwick

MMath 2010-2014

• Awarded first class degree.

Papers

- Explicit Serre weights for GL₂, in preparation, joint with Misja Steinmetz
- On the irreducible components of some crystalline deformation rings, arXiv:1904.12548, 2019 (Submitted)
- Potentially diagonalisable crystalline lifts with controlled Hodge–Tate weights, arXiv:1812.02042, 2018 (Submitted)
- Inertial and Hodge—Tate weights of crystalline representation, arXiv:1811.10260, 2018 (Accepted for publication in Mathematische Annalen)

INVITED CONFERENCE TALKS

• Banff International Research Station, Modularity and Moduli Spaces, CMO Oaxaca (Oct. 2019)

SEMINAR TALKS

- 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

2016 Awarded funding by King's College London Global research grant to support a visit to the University of Chicago. Value: GBP 2000.

2013	Awarded funding from the University of Warwick for a summer re-
	search project supervised by 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 Daan Krammer. Project Title: The
	Braid group of \mathbb{Z}^n . Value: GBP 1000.

TEACHING EXPERIENCE

King's College London

Teaching Assistant (2016-2018)

• Ran tutorials for classes of 10-20 first and second year undergraduates (Elementary Number Theory, Linear Methods, Geometry, Curves and Surfaces, Introduction to abstract algebra).

University of Warwick

First year tutor (2013-2014)

• Tutored a group of 5 first year mathematics students over the course of a year. Graded their assignments for analysis, linear algebra, number theory and abstract algebra courses.

King's College London Mathematics School

Class tutor (2017-2018)

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

OTHER

- Invited to visit University of Chicago by Professor Frank Calegari (April June 2018)
- \bullet Jointly founded and organised the London Junior Number Theory seminar (2016-2017)

Conferences
ATTENDED

Fall	2015	Motives and Automorphic Forms (Clay research conference), Ox-
C	2016	ford
Spring	2016	Recent developments in integral p -adic cohomology theories, Bonn
Spring	2016	Recent trends in p-adic Cohomology, London
Summer	2016	Fundamental groups in arithmetic geometry, Paris
Summer	2016	London-Paris Number Theory Seminar on p-adic groups and arith-
		metic geometry, Paris
Fall	2016	Automorphic Forms: theory and computation, London
Fall	2016	London-Paris Number Theory Seminar on perfectoid spaces, Paris
Winter	2017	p-adic methods for modular forms and Galois representations,
a .	2015	Barcelona
Spring	2017	Arizona Winter School on perfectoid spaces, Arizona
Summer	2017	London-Paris Number Theory Seminar on the trace formula, auto-
		morphic forms, and arithmetic manifolds, London
Summer	2017	Journées Arithémiques 2017, Caen
Summer	2017	BICRM p-adic Hodge theory and automorphic forms, Beijing
Spring	2018	Arizona Winter School on Iwasawa theory, Arizona
Summer	2018	A celebration of Barry Mazur, Cambridge MA

Summer 2018	Geometerisation of the Langlands program, Lyon
Summer 2018	Workshop on Galois representations, Heidelberg
Fall 2018	Conference on Arithmetic Algebraic Geometry, Bonn
Spring 2019	p-adic Langlands correspondence and Iwasawa theory, Lille
Spring 2019	The p -adic Langlands programme and related topics, London
Summer 2019	The geometry and arithmetic of algebraic varieties, Bonn
Summer 2019	Arithmetic geometry in Carthage, Tunisia
Fall 2019	The Emerton–Gee stacks and related topics, Bonn

Languages

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