

# Harry SPENCER

## CONTACT

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## EDUCATION

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2022—2026 **PhD**, UNIVERSITY COLLEGE, LONDON SCHOOL OF GEOMETRY AND NUMBER THEORY  
Joint PhD programme between Imperial, King's, and University Colleges, London.  
Supervisors: Vladimir DOKCHITSER (primary), David BURNS (secondary).

2018—2022 **BA; MMath**, CHURCHILL COLLEGE, UNIVERSITY OF CAMBRIDGE  
Part III Essay: “Deforming Galois Representations” | Advisor: Jack THORNE

## PUBLICATIONS

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EVIDENCE FOR AND AGAINST ZAUNER'S MUB CONJECTURE IN  $\mathbb{C}^6$   
with Gary McConnell and Afaq Tahir  
Quantum Inf. Comput. 21 (2021): 721-736.  
[doi.org/10.26421/QIC21.9-10-1](https://doi.org/10.26421/QIC21.9-10-1)

## RESEARCH PROJECTS

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<i>Current</i>	MOTIVIC PIECES OF CURVES We study factorisations of the $L$ -function associated to a curve with automorphisms; these factorisations correspond to decompositions of the underlying <i>motive</i> with respect to the action of the relevant automorphism groups. We make well-known conjectures on special values of $L$ -functions explicit in this case, and hope to better understand the $L$ -function of the original curve and its quotients through this lens.
2021 & 2022	STARK UNITS OVER REAL QUADRATIC FIELDS Summer research with Gary McConnell (ICL). We investigate links between explicit class field theory for real quadratic fields and so-called ‘SIC-POVM’s arising from quantum information theory.

## ORGANISATION

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2022—2023	Chair, LSGNT Student-Staff Liaison Committee Organising and chairing meetings with senior members of staff at the LSGNT; representing the views of the student body.
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