

Curriculum Vitae

Lewis Combes

EDUCATION

PhD in Mathematics, October 2019 - present, University of Sheffield.
Supervised by Haluk Şengün.

MMath in Mathematics, 2014-18, University of Warwick
Thesis: *Mathematics of Bitcoin: The ECDSA*

CONFERENCE TALKS

Computing Selmer groups attached to mod p Galois representations
COGENT Summer school, Institut Fourier, 2022
<https://www.youtube.com/watch?v=HvUr1zPRFAE>

Selmer groups attached to mod p Bianchi modular forms
Young Researchers in Algebraic Number Theory, University of Bristol, 2021

PUBLICATIONS

Lewis Combes, *Bianchi period polynomials: Hecke action and congruences* (Submitted, arXiv 2306.10877)

Lewis Combes, John Jones, Jennifer Paulhus, David Roe, Manami Roy, Sam Schiavone, *Creating a database of finite groups* (forthcoming)

Elisabeth (Yin Ting) Chan and Lewis Combes, *Expressions for weight 2 cusp forms in holomorphic eta quotients* (forthcoming)

TEACHING

LMS Undergraduate Summer School

Mini-course: *Some topics in computational number theory*

Selected student feedback:

"I particularly enjoyed the number theory course by Lewis Combes! He is a great teacher, the topics he talked about were fascinating and the exercises were really fun."

"Lectures were delivered with great passion and you would not guess that it was

delivered by a PhD student instead of an experienced lecturer.”

“I cannot overstate how good Lewis Combes’ course was, being the most enjoyable”

Supervised Sheffield Undergraduate Research Internship Project *Eta Expressions Associated to Elliptic Curves* with Elisabeth (Yin Ting) Chan (Summer 2022)

University of Sheffield—Various modules, 2019-2023

RESEARCH INTERESTS & SKILLS

Computational number theory, with specific focus on Bianchi modular forms, cohomology of arithmetic groups, and Selmer groups. Proficient coding with Magma; other experience with: Sagemath, Python, HTML, Javascript.