

Robin VISSER

PERSONAL DATA

PLACE AND DATE OF BIRTH: Cape Town, South Africa - 5 June 1996
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EDUCATION

- 10/2020 - present PhD in Pure Mathematics
University of Warwick, Coventry, United Kingdom
Supervisor: Samir Siksek.
(Expected completion: Summer 2024)
- 10/2019 - 06/2020 Masters of Advanced Studies in Pure Mathematics (Part III)
University of Cambridge, Cambridge, United Kingdom
Part III Essay: Large gaps between primes
- 01/2018 - 12/2018 Bachelor of Science, Honours in Mathematics
Stellenbosch University, Stellenbosch, South Africa
Thesis: Computing dimensions of spaces of modular forms
Graduated cum laude with 98% grade average.
- 01/2015 - 12/2017 Bachelor of Science
University of Cape Town, Cape Town, South Africa
Majors: Mathematics, Applied Mathematics, Physics with distinction
in all majors and the degree with distinction.

RESEARCH INTERESTS

Computational number theory, Explicit arithmetic of hyperelliptic curves, Abelian surfaces, Galois representations, Faltings theorem (the Shafarevich conjecture).

TEACHING EXPERIENCE

- 10/2020 - present University of Warwick - Senior Graduate Teaching Assistant,
Teaching assistant for numerous undergraduate courses, at levels ranging from introductory first year courses to advanced fourth year modules. My responsibilities included holding weekly support classes, the marking of assignments, and invigilating and marking of the final examinations.

List of Warwick courses taught as a teaching assistant:

Year	Term	Course Title	Num students	online/in-person
2023/24	Term 1	MA3A6 Algebraic Number Theory	105	in person
2023/24	Term 1	MA142 Maths by Computer	372	in person
2022/23	Term 2	MA4H8 Ring Theory	7	in person
2022/23	Term 2	MA252 Combinatorial Optimisation	156	online
2022/23	Term 1	MA3E1 Groups & Representation	186	in person
2021/22	Term 2	MA4H9 Modular Forms	88	online
2021/22	Term 1	MA3A6 Algebraic Number Theory	153	online

- 10/2020 - 06/2023 University of Warwick - First Year Supervisor,
Met with several groups of first-year mathematics undergraduates twice a week from 2020/21 to 2022/23. These included providing support for all core first year mathematics modules, including Real Analysis, Abstract Algebra, Differential Equations, Linear Algebra and Foundations of Mathematics, as well as marking their assignments.
- 02/2018 - 10/2018 University of Stellenbosch - Teaching Assistant,
Teaching assistant for 214 Advanced Calculus & Linear Algebra and 278 Foundations of Abstract Mathematics. Supervised weekly support classes and marked the assignments.

PREPRINTS AND PUBLICATIONS

- 2023 Curves with few bad primes over cyclotomic \mathbb{Z}_ℓ -extensions (joint with Samir Siksek)
arXiv:2302.02514, Submitted
- 2022 Potential good reduction of hyperelliptic curves
arXiv:2201.07825, Submitted

INVITED & CONTRIBUTED TALKS / CONFERENCES

- 09/2023 Modular curves and Galois representations, Zagreb, Croatia
Abelian surfaces with good reduction away from 2
- 09/2023 Conference for Young Number Theorists in Bonn, Bonn, Germany.
Curves with few bad primes over cyclotomic \mathbb{Z}_ℓ -extensions
- 09/2023 Conference for Young Researchers in Algebraic Number Theory, Cambridge, UK.
Abelian surfaces with good reduction away from 2
- 07/2023 LMFDB, Computation, and Number Theory (LuCaNT), Providence, RI.
Abelian surfaces with good reduction away from 2
- 07/2023 Journées Arithmétiques 2023, Nancy, France.
Curves with few bad primes over cyclotomic \mathbb{Z}_ℓ -extensions
- 04/2023 British Mathematical Colloquium, Bath, UK.
Curves with few bad primes over cyclotomic \mathbb{Z}_ℓ -extensions

EXPOSITORY TALKS

- 10/2023 Warwick Maths Society Talks
Gaps between primes
- 09/2023 Online Euler Systems Seminar
Kronecker's Limit Formula and L-functions of elliptic curves with CM
- 02/2023 Warwick Junior Number Theory Seminar
Computing abelian varieties with good reduction outside a finite set of primes
- 12/2022 Warwick Number Theory Seminar
Genus 2 Isogeny Cryptography
- 11/2022 Online seminar on Mazur's Torsion Theorem
Eichler-Shimura and the Shimura representation

- 11/2022 Warwick Maths Society Talks
Sums of three cubes
- 10/2022 Warwick Postgraduate Seminar
Hilbert's Tenth Problem
- 05/2022 Warwick Postgraduate Seminar
Cluster pictures for hyperelliptic curves

SERVICE & OUTREACH

- 10/2023 - 11/2023 International Student Team Competition in Mathematics - Team Leader
Represented the University of Warwick online as team leader at the International Student Team Competition in Mathematics in Katowice, Poland, 2023. This included supervising the contest, marking scripts and coordinating the final marks.
- 03/2022 - 08/2023 International Mathematics Competition - Team Leader
Represented the University of Warwick as team leader at the International Mathematics Competition (IMC) for university students in Blagoevgrad, Bulgaria, 2022. Assisted with marking scripts and coordinating the final marks, as well as with setting selection tests and holding training sessions in preparation for the competition.
- 02/2016 - 09/2019 South African Programming Olympiad - Scientific Committee Member,
Technical manager for the annual South African Programming Olympiad. Assisted with problem selection for the final round and established the online contest management system. Helped coach at training camps throughout the year.
Accompanied the national team to the International Olympiad in Informatics (IOI) for 2016, 2017 as deputy leader and 2018 as team leader.
- 12/2015 - 08/2019 South African Mathematics Foundation - Coach,
Assisted with coaching at the annual maths camps in December and April, including preparing and marking tests and the monthly assignments to select the national IMO and PAMO teams.

SELECTED AWARDS

International

- 2016/18 International Mathematics Competition for University Students
First Prize (2016), Second Prize (2018)
- 2016-17 ACM International Collegiate Programming Contest
World Finalist (Phuket, Thailand 2016 and Rapid City, USA 2017)
- 2015 International Olympiad in Informatics
Bronze Medal (Almaty, Kazakhstan 2015)
- 2012-14 International Mathematics Olympiad
Bronze Medal (Mar del Plata, Colombia 2013 and Cape Town, South Africa 2014)

Domestic

- 2014-18 South African Tertiary Maths Olympiad
First Place (2015, 2016, 2017, 2018), Third Place (2014)
- 2013-14 South African Programming Olympiad Final Round
Bronze (2013), Silver (2014)

- 2011-14 Dirk van Rooy Medal, South African Mathematical Olympiad
Senior First Place (2013, 2014), Senior Runner Up (2012), Junior Runner Up (2011)
- 2010-14 Gold Award, UCT Mathematics Competition:
First Place (2011, 2012, 2013 and 2014), Perfect Score (2014), Top Ten (2010)

SCHOLARSHIPS

- 2019 Skye Cambridge Scholarship, Cambridge
2015-17 Vice-Chancellor's Scholarship, UCT
2017 Jacob Burlak Memorial Scholarship, UCT
2017 Ivor Lewin Memorial Scholarship, UCT

SKILLS

- General software: LINUX, L^AT_EX
Programming languages: C++, Python, Java, Matlab, Mathematica, Magma, SageMath
Music: Piano - Trinity College London, Grade 8 with distinction (2014)
Marimbas - Marimba teacher certificate (2011)

LANGUAGES

- ENGLISH: Mothertongue
AFRIKAANS: 2nd Language
SPANISH: Basic Knowledge

INTERESTS AND ACTIVITIES

Programming, OEIS, Chess, Reading, Classical music, Hiking, Puzzles

References available upon request.

Updated: October 20, 2023.