

AJ Fong

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Summary of Qualifications

- Research experience in algebraic geometry
- Strong teaching experience

Education

University of Waterloo

PhD in Pure Mathematics

2023–present

Supervisor: Prof David McKinnon

University of Warwick

Master of Mathematics (with Honours), First Class

2022

Supervisor: Dr Damiano Testa

Thesis: Points at rational distances from the vertices of a rectangle

Awards

University of Waterloo

Pure Mathematics Excellence Entrance Award

2023–24

Publications

- [1] AJ Fong. Points at rational distances from the vertices of a rectangle. Fourth-year project, University of Warwick, Coventry, Apr 2022.

Research Experience

University of Waterloo

Doctoral Research

September 2023–present

University of Warwick

Fourth-Year Project

September 2021–April 2022

- Studied a family of Diophantine equations using algebro-geometric techniques
- Studied elliptic pencils cut out on the family of surfaces defined by these equations to compute most of the generators of the Néron–Severi group of these surfaces

Teaching

Department of Pure Mathematics, University of Waterloo

Graduate Teaching Assistant

Fall 2023

MATH 135 Algebra for Honours Mathematics

ECE 206 Advanced Calculus 2 for Electrical Engineers

- Conducted in-person tutorials to interact with students and answer questions; stimulated participation
- Marked and invigilated assignments, quizzes, and midterms responsibly and promptly
- Coordinated marking schemes with colleagues to ensure consistency

Mathematics Institute, University of Warwick

Graduate Teaching Assistant

2021–22

- Supervised and ran supervision sessions for a group of five undergraduate students twice a week; stimulated participation and debate
- Marked a few assignments per student per week responsibly and promptly
- Completed a student report form at the end of each term

Service

- Assistant for problem solving classes in 2022
- Mentor for eight students at Problem Solving Matters 2021

Talks

2023, 27 October: *Curves on Surfaces*, graduate student learning seminar on intersection theory at the University of Waterloo, Canada.

Professional Development

2023, 28 September: Classroom Delivery Skills, Centre for Teaching Excellence, University of Waterloo, Canada.

2023, 15 October: Supporting Student Mental Health, Centre for Teaching Excellence, University of Waterloo, Canada.

2023, 17 October: Effective Lesson Plans, Centre for Teaching Excellence, University of Waterloo, Canada.

2023, 24 October: Teaching Methods, Centre for Teaching Excellence, University of Waterloo, Canada.

2023, 31 October: Facilitating Effective Discussions, Centre for Teaching Excellence, University of Waterloo, Canada.

Technical Skills

Web Development and Platforms: HTML, CSS, Javascript, Git, GitHub

Programming Languages: MATLAB, L^AT_EX

Digital Facilitation Tools: Microsoft Teams, Zoom

Activities and Interests

Classical and Modern Dance: Competitor. Trained up to Intermediate Foundation in RAD Ballet, and Grade 7 in CSTD Modern Jazz.

Contract Bridge: Competitor. Elected as Welfare Officer in 2019–21 and President in 2021–22 of the Warwick University Bridge Club.