Hymn Chan

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Born: June 27, 1998

Nationality: Canadian, Hong Kong citizen

Education:

2021 - (expected :2026)   Ph.D. in Mathematics, University of Toronto

Advisor: Prof. Florian Herzig

A+ (Above 90%) in all the core courses:

- Algebra 1&2, Real analysis 1, Complex analysis, Differential topology, Algebraic topology

Graduate courses taken:

- Analytic number theory, Algebraic groups, Homological algebra, Algebraic geometry 2, Abelian varieties

2019 - 2020   MASt in Pure Mathematics (Part III), University of Cambridge

Graduated with merit (73%)

- Algebraic Geometry, Complex Manifold
- Algebraic Topology, Differential Geometry, Sympletic Topology
- Algebraic Number Theory
- Essay (One Calculation in Gromov–Witten Theory)

2016 - 2019   BSc in Pure Mathematics, Imperial College London

Graduated with first class honours (83%)

- Algebraic Curves, Geometry of Curves and Surfaces, Metric Spaces and Topology
- Algebra 1,2&3, Galois Theory, Algebraic Number Theory
- Geometric Complex Analysis, Complex Analysis, Real Analysis
- Individual Poster Project on minimal surfaces, Group Project on modular forms
- German

Course Instructor

Summer 2025	Calculus 2 (MAT136)

Teaching Assistant

Winter 2025	Algebra 2 (MAT247)
Fall 2024	Groups and symmetries (MAT301)
Spring 2024	Calculus 1 (MAT135)
Winter 2024	Algebra 2 (MAT247)

Winter 2024	Algebraic Number Theory (MAT415)
Spring-Summer 2023	Multivariable Calculus (MAT235)
Fall 2022 - Winter 2023	Analysis 1 (MAT157)
Fall 2021 - Winter 2022	Calculus with Proof (MAT137)

Employment experience

Summer 2019	Visiting Student, Chinese University of Hong Kong
Summer 2018	Research Intern, Fields Institute
2018-2019	Peer Tutor, Imperial College London
Summer 2017	Research Intern, Imperial College London

Publications

Breuil's Lattices Conjecture for GL_2 (In preparation)

Construction of Supersingular representation (with Bertoletti, L., Ortiz, M., Xu, C., Zhang, Y. S., in preparation)

One Calculation in Gromov–Witten Theory (Master's essay, unpublished)

Prizes and Honours:

2022 - 2025	Ontario Graduate Scholarship
2022 - 2023/ 2024 - 2025	Paul Mandl Graduate Scholarship in Mathematics
2021 - 2022	Blyth Fellowship

Talks presented

March2025	Weight part of Serre's Conjecture and Breuil-Mezard Conjecture at the Junior Number Theory seminar at the University of Toronto
March 2025	Construction of Supersingular representation (with Bertoletti, L., Ortiz, M., Xu, C., Zhang, Y. S.) at Arizona Winter School
August 2024	Introduction to the Langlands Program at the department seminar at Nazarbayev University
July 2024	Breuil's Lattice Conjecture at the Summer school on Galois representations and Reciprocity at Vietnam Institute for Advanced Studies in Mathematics
March 2024	Introduction to the Langlands Program at the Bird-eye conference at the University of Toronto
December 2023	p-adic Langlands program and the Breuil's lattice conjecture at Monodromy and its application conference at Princeton University
October 2023	The p-adic Langlands correspondence and Breuil's lattice Conjecture at the Junior Number Theory seminar at the University of Toronto

March 2023	Introduction to the Langlands Program at the Bird-eye conference at the University of Toronto
January 2023	Galois theory of local fields the Junior Number Theory seminar at the University of Toronto
November 2022	Fermat's last theorem and the modularity theorem at the Junior Number Theory seminar at the University of Toronto
March 2022	Gromov Witten-Invariants: From Physics to algebraic geometry to combinatorics at the graduate student seminar at University of Toronto

Reading seminar organized

Summer 2024	Etale Cohomology
Summer 2023	Modular forms