

Chen-Wei (Milton) Lin

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Education

Ph.D. of Mathematics, Johns Hopkins University, 2019-Present

Expected Graduation, July 2025.

Supervisor: David Gepner.

Masters of Mathematics, University of Oxford, 2018-2019

Dissertation Topic: Index of Operators and KK -theory. Supervisor: Dr. Andre Henriques.

Fourth year examinations, ranked 4th in cohort, best dissertation.

BA Mathematics, University of Oxford, 2015-2018

Supervisors: Prof. Glenys Luke, Prof. Tom Sanders.

Preliminary Examinations, ranked Top 10 of approx. 200 students.

Third Year Examinations, ranked Top 10 of approx. 150 students.

Awards and honors

Gibbs Dissertation Prize for Mathematics

Awarded by the Oxford Mathematical Institute.

One or two prizes each year for best Masters of Mathematics dissertation.

Alison Sheppard Prize for Mathematics

Awarded by St Hugh's College, Oxford.

Third year mathematician with highest first class in College.

St Hugh's College Scholarship Award

Awarded by St Hugh's College, Oxford, annually.

First Class Honors in each year.

Research

[Mixed characteristic Geometric Casselman Shalika Formula](#), [arXiv:2408.07953](#). Joint with Ashwin Iyengar (Johns Hopkins University) and Konrad Zou (Bonn University). In this joint work, we prove the geometric Casselma–Shalika formula in the setting of Witt vector Grassmanian.

[Integral aspects of Fourier Duality](#) [arXiv:2407.06184](#) In this joint work, we prove several results regarding integral versions of Fourier duality for abelian schemes, using Pappas's work on integral Grothendieck–Riemann–Roch.

Seminars/talks

2024

Topology [E-theory seminar](#), JHU, on Gross-Hopkins period map.

Number theory learning seminar, JHU, motivic periods, two talks on Chen's Theorem.

2023

Topology Seminar, JHU, on *Dieudonné modules, following Lurie and Hopkins*.

Topics in representation theory seminar, JHU, on *Uniformization of G -bundles*.

Topological Quantum Field Theory learning seminar, JHU, on *Classical field theory and σ -models*.

Topics in representation theory seminar, JHU, on *Affine Grassmanian*.

[Prismatic cohomology](#) Seminar organizer, with Naruki Masuda and David Gepner.

2022

Heegner points study group, JHU, on *Selmer structures and duality*.

Derived deformation theory seminar, JHU, three talks on *Calegari-Geraghty method in modularity lifting*.

Jacquet Langlands Correspondence student seminar, JHU, four talks.

2021

[eCHT Hermitian \$K\$ -theory](#), on Poincaré categories.

[Category theory seminar](#), on differential cohomology and cohesive topoi.

Derived deformation theory seminar, JHU, on formal moduli problems.

Seminar on Stack of Langlands Parameter, joint with U Chicago, on [representation stacks](#).

[Non-archimedean study group](#), on *Formal schemes and rigid generic fiber*.

2020

[DaFra Seminar](#) on Condensed mathematics, a talk on *Solid Abelian Groups*.

[Étale homotopy study group](#), Kings College London, a talk on *Étale homotopy obstruction*.

Topological Hochschild Homology Seminar, UIC, two talks on *Construction of THH*.

Spectral Algebraic Geometry Seminar, UIC, two talks on *Spectrally Ringed ∞ -Topoi*.

[eCHT Kan Fall Seminar](#), two talks on chapter 1 of *A Survey of Elliptic Cohomology*, J. Lurie.

[Number Theory Seminar](#), Uni. of Melbourne, two talks on *Contragredient representations*.

[Oberseminar](#), Uni. of Regensburg, a talk on *The p -complete Frobenius*.

2019

Masters presentation, University of Oxford. On *The Atiyah Singer-Index Theorem*.

Reading Group, University of Oxford. On *Model Categories*, Dwyer and Spalinski.

Teaching and Supervision

All roles listed below were conducted at Johns Hopkins University.

Fall 2024

Graduate Algebra, Teaching Assistant

Introduction to proofs, Teaching Assistant

Spring 2024

[Directed Reading Program](#), Co-organizer and Mentor

Mentee: Viggy Vanchinathan

Topic: Understanding Addition in Language Models

Fall 2023

SOUL Course: Interpretability in AI, Lecturer

Honors Single Variable Calculus, Lecturer

Directed Reading Program, Organizer and Mentor

Mentee: Spencer Huang, Dev Lalwani

Topic: Mechanistic Interpretability

Spring 2023

Calculus III, Head Teaching Assistant

[Directed Reading Program](#), Organizer with Benjamin Dees

Mentee: Orisis Zheng

Topic: Zariski's Lemma in Algebraic Geometry

Fall 2022

Calculus II, Teaching Assistant

Directed Reading Program, Co-organizer and Mentor

Mentee: Orisis Zheng

Topic: Maxwell Equations and Differential Geometry

Mentee: Nick Lombardi

Topic: Introduction to the Langlands Program