Zachary Gardner

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Education

Boston College
Ph.D. in Mathematics   2020-2026
Thesis: "Moduli of $\mathcal{O}$-prismatic $(\mathcal{G}, \mu)$-apertures and applications," advised by Keerthi Madapusi

The University of Texas at Austin
B.S. in Mathematics with Departmental Honors   2016-2020
Thesis: "Abelian Varieties and the Mordell-Weil Theorem," advised by Sam Raskin

Publications & Preprints

Submitted
(with K. Madapusi) *An algebraicity conjecture of Drinfeld and the moduli of p-divisible groups*   2024

Forthcoming
Moduli of $\mathcal{O}$-prismatic $(\mathcal{G}, \mu)$-apertures and applications
(with J. Hekking) *A note on ideals in derived geometry*
Prismatic Rapoport-Zink spaces associated to general linear groups

Talks

Prismatic Rapoport-Zink spaces associated to general linear groups, Kyoto University   October 27, 2024
Moduli of prismatic $(\mathcal{G}, \mu)$-apertures and applications, The University of Tokyo   October 9, 2024
Prismatic $(\mathcal{G}, \mu)$-apertures and 1-bounded derived stacks, Universität Münster   August 14, 2024
Moduli of prismatic $(\mathcal{G}, \mu)$-apertures, Universität Münster   August 7, 2024

Service

Seminars & Conferences Organized
Derived Arithmetic Intersection Theory (DAIT) Learning Group   Spring-Summer 2022
Virtual seminar on conjectural derived formulation of $*$-products and arithmetic intersection theory
Derived Algebraic Geometry (DAG) Learning Group   Fall 2021
Virtual seminar mostly following assorted notes of Adeel Khan
UT Summer Minicourses   Summer 2020
Recruited speakers for week-long courses, managed documents and other secretarial work

Other Service
Treasurer: BC Math Graduate Student Association   Fall 2022–
Secured funding for weekly graduate student seminar and prospective student visit, managed reimbursements
Secretary: BC Math Graduate Student Association   Fall 2021-Spring 2022
Organized weekly graduate student seminar and prospective student visit, managed documents
Graduate Student Representative: NSF Project #1950222   Fall 2021-Spring 2022
Met with high school math teachers in the Boston area to do collaborative math exercises together and discuss math pedagogy and their needs in the classroom
Head Math Representative: Physics, Math, & Astronomy Board for Student Advocacy   Fall 2019-Spring 2020
Strengthened communication and transparency between students and administration, successfully obtained new physical shared space for PMA majors, helped formalize TA recruitment procedures
President: UT Math Club   Fall 2017-Spring 2019
Built community with underclassmen, graduate students, faculty and administrators, formalized club structure, created and recruited for new club officer roles (outreach coordinator and social coordinator)
Head Counselor: Ross Mathematics Program   Summer 2019
Trained other counselors, taught courses, mentored first- and second-year students, managed documents
Counselor: Ross Mathematics Program   Summer 2017
Mentored first- and second-year students, managed documents

Teaching Experience

Boston College

Instructor of record for *Math 1100 Calculus I*	Spring 2024 & Fall 2022
Instructor of record for *Math 1004 Finite Probability and Applications*	Fall 2023
Teaching assistant for *Math 1101 Calculus II*	Spring 2022
Teaching assistant for *Math 2202 Multivariable Calculus*	Fall 2021
Grader for *Math 3312 Algebra II*	Spring 2021
Teaching assistant for *Math 1102 Calculus I (Math/Sci)*	Fall 2020

UT Summer Minicourses

Abelian Varieties and the Mordell-Weil Theorem	Summer 2020
(with R. Gregoric) *Class Field Theory*	Summer 2019

Ross Mathematics Program

Ross 55: From algebraic number theory to smooth manifolds	Summer 2019

Honors, Awards, & Fellowships

Boston College

Boston College Dissertation Fellowship	Fall 2025
Donald J. White Teaching Excellence Award	Spring 2022

The University of Texas at Austin

CNS Dean's Honored Graduate	Spring 2020
CNS Service & Leadership Distinction	Spring 2020
Barrett Fellowship	Fall 2019
Carmelina Cutro Albino Memorial Endowed Presidential Scholarship	Spring 2018

Conference & Workshop Attendance

New p-adic perspectives on canonical integral models for Shimura varieties	March 2-6, 2026
American Institute of Mathematics, Caltech, Pasadena, California, USA	
Summer Research Institute in Algebraic Geometry	July 28-August 1, 2025
Colorado State University, Fort Collins, Colorado, USA	
Young Topologists Meeting	June 23-27, 2025
KTH Royal Institute of Technology, Stockholm, Sweden	
Workshop on Shimura varieties and related moduli stacks	October 27, 2024
Kyoto University, Kyoto, Japan	
p-adic cohomology and arithmetic geometry (*in honor of Nobuo Tsuzuki*)	October 21-25, 2024
Tohoku Forum for Creativity, Tohoku University Katahira campus, Sendai, Japan	
Workshop on Shimura varieties, representation theory and related topics	October 7-11, 2024
The University of Tokyo, Tokyo, Japan	
Young Topologists Meeting	August 5-9, 2024
Universität Münster, Münster, Germany	
Algebraic geometry and cohomology in mixed characteristic	May 15-19, 2023
Evanston, Illinois, USA	
Homotopy Theory with Applications to Arithmetic and Geometry	June 27-30, 2022
Fields Institute, Toronto, Ontario, Canada	
Arizona Winter School on Topology and Arithmetic	March 2-6, 2019
Southwest Center for Arithmetic Geometry, Tucson, Arizona, USA	

Languages

English	Native
Hindi	Intermediate
French	Beginner