Chengyang Bao

CONTACT INFORMATION	The University of Chicago Department of Mathematics Eckhart Hall 5734 S University Ave Chicago, IL 60637	c.y.bao at math dot uchicago dot edu https://math.uchicago.edu/~c.y.bao/

RESEARCH INTERESTS

I am a number theorist with a particular interest in the Langlands program, especially crystalline deformation rings and Galois representations attached to modular forms.

EDUCATION

The University of Chicago

Ph.D. Candidate, Mathematics (expected June 2024)
- Advisor: Frank Calegari

M.S. in Mathematics, December 2019

Peking University

B.Sc. with honors in Mathematics, July 2018

PREPRINTS

(In preparation, available on request) *Computing Crystalline Deformation Rings via the Taylor–Wiles–Kisin Patching Method.*

(In preparation) *Patching functor for coherent cohomology and applications.*

Locally induced Galois representations with exceptional residual images. Submitted. arXiv:2205.11562.

INVITED TALKS

Number Theory / Representation Theory Seminar, University of Wisconsin-Madison (Dec 7, 2023)

Special session on "Arithmetic geometry with a view toward computation" at Joint Mathematics Meetings, San Francisco (Jan 6, 2024)

Algebra seminar, University of Arkansas (April 8, 2024)

SERVICE

Oct 2020 – May 2021	Organizer of No Theory seminar (student number theory seminar)	UChicago
Apr 2022 – Jul 2022	Co-organizer of Weil Conjectures learning seminar	UChicago

TEACHING EXPERIENCE	Spring	2024	UChicago	Instructor, MATH 15250: Mathematical Methods for Economic Analysis
	Winter	2024	UChicago	Instructor, MATH 15200: Calculus II
	Fall	2023	UChicago	Instructor, MATH 15100: Calculus I
	Spring	2023	UChicago	Mentor, DRP[1] in number theory
	Winter	2023	UChicago	Mentor, DRP in commutative algebra
	Fall	2022	UChicago	Instructor, MATH 15100: Calculus I
	Summer	2022	UChicago	Supervisor, REU[2] in representation theory and algebra
	Winter	2022	UChicago	Instructor, MATH 15200: Calculus II
	Fall	2021	UChicago	Instructor, MATH 15100: Calculus I
	Spring	2021	UChicago	Tutor, MATH 13200: Elementary Functions and Calculus II
	Winter	2021	UChicago	Instructor, MATH 15300: Calculus III
	Fall	2020	UChicago	Instructor, MATH 15200: Calculus II
	Spring	2020	UChicago	College Fellow, MATH 25500: Basic Algebra II
	Winter	2020	UChicago	College Fellow, MATH 25400: Basic Algebra I
	Fall	2019	UChicago	College Fellow, MATH 16100: Honors Calculus I(IBL[3])

RELEVANT SKILLS	Computer Skills:	Pari/GP, Magma, SageMath
	Languages:	English, Mandarin

---

[1]the Directed Reading Program
[2]the Research Experience for Undergraduates program
[3]Inquiry-Based Learning