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# AARON ARTHUR GORDON SLIPPER

## Profile

Aaron Slipper is a sixth-year graduate student at the University of Chicago, with advisors Ngô Bảo Châu and Kazuya Kato. Areas of interest include Normalized Intertwining Operators, Geometric Eisenstein Series, the “Beyond Endoscopy” Program, and Logarithmic Geometry.

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## Papers

2023: The Logarithmic Abel-Jacobi Map (*in progress*)

2023: Paraspherical Normalized Intertwining Operators over Nonarchimedean Fields (*in progress*)

2023: A Fourier Transform for Paraspherical Spaces over Finite Fields (*preprint*)

## Education

**University of Chicago** — PhD — Chicago, IL — PhD program in mathematics. Aug 2018 -present. Advisors: Ngô Bảo Châu, Kazuya Kato. (In progress.)

**Harvard University** — BA — magna cum laude — Cambridge, MA — Honors Candidate in Mathematics — Aug 2014-May 2018. GPA 3.939.

**Palo Alto High School** — Palo Alto, CA — Diploma — Aug 2010-May 2014. GPA 4.0.

## Employment

**Instructor** — University of Chicago — Fall 2021- Spring 2022, Autumn 2023. Calculus II (Math 15200, Fall 2021, Fall 2023), Calculus III (Math 15300, Winter 2022), and Linear Algebra (Math 196200, Spring 2022).

**Teaching Assistant** — University of Chicago Paris Study Abroad Program — Spring 2023 — Algebraic Curves (Prof. Ngô Bảo Châu), p-adic Harmonic Analysis (Prof. John Boller), Introduction to Dynamical Systems (Professor Simion Filip).

**College Fellow** — University of Chicago — Aug 2019-2020 — course assistant for IBL Calculus, an advanced freshman-year proof-based calculus course.

**Upper Level Course Assistant** — Harvard University — Aug 2015-Dec 2017 —

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Course Assistant for Math 152 (Discrete Mathematics) in fall semesters of 2015-2018. Received high official student-rating "Q Score" (4.8/5).

### Awards and Honors

**University of Chicago Physical Sciences Division Teaching Award** — April 2020 —

Each year the Physical Sciences Collegiate Division and the Physical Sciences Division present a teaching prize to graduate students, recognizing their exceptional teaching of College students. Up to three prizes of \$1,000 and a certificate are awarded annually to those judged to have been most effective in undergraduate instruction in a physical science course during the previous year.

**National Science Fellowship** — Aug 2018-present —

The NSF Graduate Research Fellowship Program recognizes and supports outstanding graduate students in NSF-supported science, technology, engineering, and mathematics disciplines who are pursuing research-based Master's and doctoral degrees at accredited United States institutions.

**Phi Beta Kappa, Alpha of Massachusetts** — May 2018 —

Academic Honor Society for academic performance as an undergraduate at Harvard University.

**Harvard College Scholar** — Nov. 2017 —

Award for academic performance, 2016-2017 academic year. Indicates academic performance (GPA) in top 10% of class.

**Derek Bok Teaching Award** — March 2017 and March 2018 —

This award — sponsored by the Derek Bok Center for Teaching and Learning in cooperation with the Office of the Dean of Undergraduate Education — reflects a Q score of 4.5 or higher in the "overall" category from 5 or more respondents for the Fall Semester 2016. The certificate acknowledges the excellence of your work with students and the strength of your commitment to teaching. Awarded twice (once for teaching in Fall 2016 and once for teaching Fall 2017).

**Wendell Prize Scholarship Finalist** — Feb. 2016 —

One of select group of sophomore finalists for the prestigious Wendell Prize, awarded to one sophomore each year, in recognition of academic performance and broad range of scholarship.

**Detur Book Prize** — Oct. 2015 —

One of the oldest prizes at Harvard College; the Detur Book Prize recognizes sophomores who attain very high academic standing in their first year at the College and honors them with a book of their choice.

Subject of feature-length article in *The Harvard Crimson* — Oct. 2015 —  
<http://www.thecrimson.com/article/2015/10/22/aaronslipper/>

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## Experience

**Co-Organizer and Founder of BunG Seminar** — Winter, 2023 - present. <http://math.uchicago.edu/~bundles/>. Speakers have included Victor Ginzburg, Ngô Bảo Châu, and Alexander Beilinson.

**Seminar Lecture** — Johns Hopkins Junior Number Theory Days: Parapspherical Fourier Transforms of Finite Fields. February 10-11, 2024. <https://math.jhu.edu/~sakellar/JNTD2022/>

**Seminar Lecture** — The Geometric Satake Correspondence. UChicago BunG Seminar. October 11, 2023. <https://youtu.be/uidBYEvTdtM>

**Seminar Lecture** — Normalized Intertwining Operators over finite fields. Oct 6, 2023. In Professor Ngô's Langlands Program seminar.

**Seminar Lecture** — On the Bernstein Center for  $p$ -adic Groups. October 2 & 9th, 2023. In Professor Emerton's Categorical Langlands Seminar. <https://math.uchicago.edu/~samantha/Cat-Langlands/>

**Seminar Lecture** — A Mosaic of Examples and Basic Properties of BunG. UChicago BunG Seminar. March 1, 2023. <https://youtu.be/L6Lc4IUgQi8>

**Seminar Lecture** — Braverman-Kazhdan Normalized Intertwining Operators. Jan 2023. In Professor Ngô's Langlands Program seminar.

**Seminar Lecture** — Geometric Class-Field Theory. Oxford Junior Number Theory Seminar. May 9, 2022.

**Thesis Topic Proposal** — Representations of  $GL_2(K)$  for Finite and Non-Archimedean  $K$ .

**Lecture: Deligne-Lusztig Theory** — Nov. 2019. — I delivered the introductory lecture in Professor Ngô's seminar on Character Sheaves.

**Senior Undergraduate Thesis** — *Modular Magic: The Sphere Packing Problem in Dimensions 1, 2, 8 and 24* — <https://legacy-www.math.harvard.edu/theses/senior/slipper/slipper.pdf><https://legacy-www.math.harvard.edu/theses/senior/slipper/slipper.pdf> — Advisor: Professor Noam Elkies.

## Attended Conferences/Lecture Series

**Southwestern School on Arithmetic Geometry** — March 2020 — University of Arizona

**Barry Mazur's 80th Birthday Conference** — May 2018 — Harvard University.

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**Current Developments in Mathematics** — Nov. 2017 — Maryna Viazovska — Harvard University.

### Other Activities/Interests

Spanish Language — fluency.

Theatre:

Hasty Pudding Theatricals — Cast — 2015-2018.

Harvard-Radcliffe Gilbert and Sullivan Society — 2015-present — board of directors, 2016-present — Historian, 2016-2017.

Classical Music: piano; violin; viola; composition.

### References

**Ngô Bảo Châu** — Professor. [ngo@uchicago.edu](mailto:ngo@uchicago.edu)

**Kazuya Kato** — Professor. [kkatomath@gmail.com](mailto:kkatomath@gmail.com)

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