

Matthew Niemi

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Education

Harvard University PhD student in mathematics	2024 - Present
University of Illinois Urbana-Champaign B.S., <i>summa cum laude</i> in Mathematics	2020 - 2024 GPA: 4.0 / 4.0

Research Experience, Papers

The University of Chicago Math Research Experience for Undergraduates (REU) <i>Advisor: Prof. Peter May</i> <ul style="list-style-type: none">Paper in preparation on <i>ambidexterity and semiadditivity</i> in homotopy theory.	June – August 2023
The University of Chicago REU <i>Advisor: Prof. Peter May</i> <ul style="list-style-type: none">Resulted in 20-page paper <i>The Adams Conjecture and the K-theory of finite fields</i> (joint with Zhong Zhang).	June – August 2022
The University of Chicago REU <i>Advisor: Max Johnson</i> <ul style="list-style-type: none">Resulted in 12-page paper <i>The derived functor approach to sheaf cohomology</i>.	June – August 2021

Talks, Presentations

Cochains on the circle <i>Harvard Zygote Seminar</i>	2024
THH of spherical cochains and free loop spaces <i>UIUC Telescope Seminar</i>	2024
The Adams conjecture and Quillen’s invention of algebraic K-theory <i>The University of Chicago</i>	2023
Some recollections from Ravenel’s Orange Book <i>UIUC Chromatic Seminar</i>	2023
Computing the homology of general linear groups over finite fields <i>UIUC Kan Seminar</i>	2023
The cobar construction <i>UIUC Kan Seminar</i>	2023
The Adams conjecture and Quillen’s invention of algebraic K-theory <i>The University of Chicago</i>	2022
You could have invented derived functors <i>The University of Chicago</i>	2021
Homotopy, modular forms, and the spectrum $Q(\ell)$ <i>UIUC Undergraduate Research Symposium</i>	2021

Service

Condensed Seminar <i>Organizer, lecturer</i>	June – August 2023 <i>The University of Chicago</i>
Sheaf Seminar <i>Organizer, lecturer</i>	June – August 2022 <i>The University of Chicago</i>

Awards & Honors

H. Roy Brahana Prize in Mathematics Awarded annually to the UIUC student with “the most exceptional undergraduate math career.”	2023
Salma Wanna Award Awarded annually to a UIUC student “for exceptional performance in mathematics.”	2022