

Sacha Goldman

Email sacha@sachagoldman.com

Website sachagoldman.com

Education

PhD in Mathematics [University of Toronto](#)

September 2023 - August 2028

Supervised by Alexander Kupers.

MSc in Mathematics [University of Toronto](#)

September 2023 - September 2024

Program encompassing both course work and research. Supervised by Alexander Kupers.

BSc in Mathematics and Computer Science [University of Toronto](#)

September 2019 - June 2023

Focused on mathematics and its applications to computer science.

Research

Master's Thesis [Finiteness Properties of Some Mapping Class Groups](#)

Showing finiteness results for automorphism groups of some manifolds combining techniques from geometric topology, rational homotopy theory, K -theory, and surgery theory.

Undergraduate Summer Research [The Torelli Lie Algebra](#)

Working with Alexander Kupers and Daniel Litt on studying the centre of the Torelli Lie algebra.

Awards

Canadian Graduate Scholarship - Master's [National Sciences and Engineering Research Council](#)

2024 - 2025

Coxeter Scholarship in Mathematics [University of Toronto](#)

2024

Undergraduate Summer Research Award [National Sciences and Engineering Research Council](#)

2023

Raptors Foundation In-Course Scholarship [New College](#)

2023

In-Course Scholarship [New College](#)

2022

In-Course Scholarship [New College](#)

2021

William and Shirley Reed Scholarship [VSB](#)

2019

Teaching

MAT257 Teaching Assistant [University of Toronto](#)

September 2024 - April 2025

Running tutorials, office hours, and grading for a course covering calculus on manifolds.

MAT1300 Teaching Assistant [University of Toronto](#)

September 2024 - December 2024

Grading for a graduate course on differential topology.

MAT185 Teaching Assistant [University of Toronto](#)

January 2024 - April 2024

Running tutorials and grading for a proof based linear algebra course.

Math Learning Centre Teaching Assistant [University of Toronto](#)

January 2024 - April 2024

Helping students at the math learning centre.

MAT186 Teaching Assistant University of Toronto

September 2023 - December 2023

Running tutorials and grading for a differential and integral calculus course.

CSC236 Teaching Assistant University of Toronto

September 2021 - December 2021

Running tutorials and grading for a course introducing mathematics for computer science.

Speaking

Ontario Graduate Mathematics Conference University of Waterloo

2024

Speaking about finiteness properties of some automorphism groups of manifolds.

Birds Eye Conference University of Toronto

2024

An expository talk about rational homotopy theory and Sullivan's minimal models.

Graduate Student Seminar University of Toronto

2024

An expository talk about the calculation of homotopy groups of spheres.

Canadian Undergraduate Mathematics Conference University of Toronto

2023

An expository talk about using the Hopf fibration to calculate $\pi_3(S^2)$.

Employment

Software Engineer Intern Apple

May 2022 - August 2022

Worked on the team architecting Apple Media Apps solving unique technical challenges.

Software Developer Intern SSENSE

May 2021 - August 2021

Worked on the iOS team facilitating a transition to the composable architecture and SwiftUI.

Software Developer Intern Altairix

May 2020 - August 2020

Worked on the web based learning platform for students with disabilities.

Service

Graduate Student Seminar Organizer Math Graduate Student Association

September 2024 - August 2025

Organizing the University of Toronto's mathematics graduate student seminar.

Academic Committee Math Graduate Student Association

September 2023 - August 2024

Helping to organize academic events and the graduate student seminar.