JUSTIN ALEXANDER BLOOM

Seattle, WA — justinabloom1@gmail.com— Mobile: 503-577-8909

EDUCATION

Oregon State University, Corvallis, OR — Enrolled: September 2016 — March 2020
B.S. in Mathematics, minor in Computer Science — Graduated magna cum laude

University of Washington, Seattle, WA — Enrolled: September 2020 — Expected June 2025
PhD in Mathematics

RESEARCH

Modular representation theory and tensor triangulated geometry — University of Washington (Seattle, WA)
PhD research — Ongoing

- Advisor Prof. Julia Pevtsova. General exam paper on derived differential graded algebra, and modular representations. PhD candidate as of December 2023.
- A tensor-triangular property for categories of representations of restricted Lie algebras (preprint 2024)

Secure multiparty computation — Oregon State University (Corvallis, OR)
Undergraduate Research — Summer 2019

- Advisor Prof. Mike Rosulek. Joint work with Lalita Devadas, proceedings paper on garbled circuits and Montgomery multiplication.

CONFERENCES AND SEMINARS

Motivic homotopy, K-theory, and Modular Representations — USC. (Los Angeles, CA)
Attendee, Lightning-talk session — August 9 2024 - August 11 2024

- Conference held in honor of Eric Friedlander.

Advances in Lie Theory, Representation Theory and Combinatorics — UC Berkeley. (Berkeley, CA)
Attendee — May 1 2024 - May 3 2024

- Workshop at Simons Laufer Mathematical Sciences Institute (SLMath, formerly MSRI). Held in memory of Georgia Benkart.

1-2-3 Seminar: Lie algebras and tensor products — University of Washington (Seattle, WA)
Speaker — March 29, 2024

- An example-focused, graduate student lead seminar. Spoke on representations of restricted Lie algebras and finite group schemes.

1-2-3 Seminar: Modular Representations — University of Washington (Seattle, WA)
Speaker — February 9, 2024

- An example-focused, graduate student lead seminar. Spoke on representation type of finite groups over a field of positive characteristic.

Symmetric Tensor Categories and Representation theory — UCLA. (Los Angeles, CA)
Attendee — January 8 2024 - January 12 2024

- Workshop at the Institute for Pure and Applied Mathematics. Speakers on symmetric tensor categories, tensor-triangulated geometry and representations of group schemes and Lie algebras.

PhD General Exam Presentation — University of Washington (Seattle, WA)
Speaker — November 13 2023

- Tensor triangulated geometry, global methods for differential graded algebras, and modular representations.

Master Class on New Developments in Finite Generation of Cohomology — Universität Bielefeld (Bielefeld, DE)
Virtual attendee — September 25-Septaember 27 2023

- Understanding van der Kallen's recent work on generalizing Friedlander-Suslin's finite generation of cohomology

A Panorama of Homotopy Theory — Oxford University (Oxford, UK)
Attendee — June 5 2023 - June 9 2023

- Conference held in honor of Mike Hopkins. Speakers on motivic, chromatic, and geometric homotopy theory, homotopy type-theory, as well as applications to quantum field theory.

1-2-3 Seminar: Support and Structure — University of Washington (Seattle, WA)
Speaker — January 13, 2023

- An example-focused, graduate student lead seminar. Spoke on local cohomology and support.

Combinatorial, Computational, and Applied Algebraic Geometry — University of Washington (Seattle, WA)
Attendee — June 27 2021 - July 1 2021

- Conference held in honor of Bernd Sturmfels. Speakers on tropical geometry and applied algebraic geometry.

TEACHING

Instructor at University of Washington:

MATH 209: *Systems of Differential Equations*	Summer 2023

Teaching Assistant at University of Washington:

MATH 126: *Multivariable Calculus*	Autumn 2023
MATH 506: *Graduate level commutative algebra and representation theory*	Spring 2023
MATH 505: *Graduate level field theory and Galois theory*	Winter 2023
MATH 120: *College Algebra*	Autumn 2022
MATH 112: *Algebra with applications*	Spring 2022
MATH 126: *Multivariable Calculus*	Winter 2022
MATH 111: *Algebra with applications*	Autumn 2021
MATH 120: *College Algebra*	Summer 2021
MATH 125: *Integral Calculus*	Spring 2021
MATH 125: *Integral Calculus*	Winter 2021
MATH 124: *Differential Calculus*	Autumn 2020