

Soham Ghosh

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RESEARCH INTERESTS

Algebraic geometry with an arithmetic flavour: Brauer groups, Azumaya algebras, moduli and stacks, K-theory; Tropical geometry: intersection theory, tropical abelian varieties, Fourier-Mukai transforms.

EDUCATION

University of Washington, Seattle <i>Ph.D. Mathematics</i> Seattle, WA	2022- Present
Advisors: Max Lieblich and Farbod Shokrieh	
University of Washington, Seattle <i>MS. Mathematics</i> Seattle, WA	2022- 2024 GPA: 4.0/4.0
Indian Statistical Institute, Bangalore <i>Bachelor of Mathematics(Honors)</i> Bangalore, India	2019-2022 Grade: 97.18%
<i>First division with distinction</i>	

RESEARCH

1. "Fourier-Mukai transforms of tropical Abelian varieties" (with Farbod Shokrieh), *under preparation*.
2. "Proof of the Casas-Alvero conjecture", *preprint (2025)*.
Arxiv link: <https://arxiv.org/abs/2501.09272>
3. "A finiteness result towards the Casas-Alvero conjecture", *preprint (2024)*.
Arxiv link: <https://arxiv.org/abs/2402.18717>.
4. "The Zariski covering number for vector spaces and modules", *Communications in Algebra*, 50, No. 5 pages 1994-2017 (2022). *Journal link:* <https://doi.org/10.1080/00927872.2021.1995741>.

TEACHING AND SERVICES

Teaching assistant and Grader at University of Washington, Seattle	Autumn 2022- present
<ul style="list-style-type: none">• Math 124: Calculus I (Autumn 2022, 2 sections)• Math 125: Calculus II (Winter 2023, 2 sections)• Math 327: Introduction to Real Analysis I (Spring 2023)• Math 394: Probability I (Summer 2023)• Math 381: Discrete Mathematical Modelling (Autumn 2023)• Math 407: Linear Optimization (Winter 2024, 2 sections)• Math 534: Graduate Complex Analysis (Spring 2024 and Autumn 2024)• Math 300: Mathematical Reasoning (Winter 2025)	

Instructor at Husky Math Academy, Seattle Autumn, Winter 2024
Instructor for weekly problem solving sessions for the Husky Math Academy, based at the University of Washington, offering rigorous and challenging math classes for students in grades 7-9.

SELECTED AWARDS AND HONORS

Academic Excellence Award <i>University of Washington, Seattle</i>	2023
Provost Scholarship <i>University of Washington, Seattle</i>	2022 & 2023
Academic Excellence Award <i>Indian Statistical Institute, Bangalore</i>	2020, 2021, & 2022

INVITED TALKS

San Antonio AMS Fall Section Meeting	September 2024
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Special session on "Non-Archimedean, Algebraic, tropical geometry and Applications"

Talk: "Fourier-Mukai transforms of tropical Abelian varieties"

CONFERENCES/ WORKSHOPS

- *Western Algebraic Geometry Symposium Fall 2024* at University of Arizona, Tuscon November 2024
- *AMS Fall Sectional Meeting at University of Texas San Antonio* September 2024
- *Arizona Winter School 2024: Abelian Varieties* March 2024
- *Western Algebraic Geometry Symposium Fall 2023* at Washington University St. Louis November 2023
- *FRG workshop on Brauer groups and derived categories* at Northwestern University October 2023
- *Western Algebraic Geometry Symposium Spring 2023* at the University of Washington April 2023
- *Arizona Winter School 2023: Unlikely intersections* March 2023