

Gheehyun Nahm

Education	Princeton University Ph.D. candidate in Mathematics	2023 – present
	University of Cambridge (Trinity College) 2019 – 2021: leave for mandatory national service BA+MMath; Part II (2022): Class I, rank: 1 st /243; Part III (2023): Distinction, rank: 1 st /282	2017 – 2023
	Seoul National University Left after one semester; Major in Mathematics	2017
Research	An irreducible real projective plane in the 4-sphere (with Mark Hughes, Seungwon Kim, and Maggie Miller). arXiv:2605.12921	
	Basepoints in Khovanov homology and nonorientable surfaces. arXiv:2605.08457	
	Knotting and linking in 4 and 5 dimensions from barbell diffeomorphisms (with Seungwon Kim and Alison Tatsuoka). arXiv:2603.20130	
	Brunnian links of 3-balls in the 4-sphere (with Seungwon Kim and Alison Tatsuoka). arXiv:2603.06554	
	The Rasmussen s -invariant and exotic 4-manifolds. arXiv:2602.20138	
	Rational surgery exact triangles in Heegaard Floer homology. arXiv:2601.06654	
	Khovanov homology can distinguish exotic Mazur manifolds. arXiv:2510.10809	
	Spectral sequences in unoriented link Floer homology. arXiv:2505.01914	
	An unoriented skein exact triangle in unoriented link Floer homology. arXiv:2501.01047	
Invited Talks	AMS Special Session on Topology, Gauge Theory, and Special Geometric Structures	Mar 2026
	AMS Special Session on Sheaf-Theoretic and Floer-Theoretic Approaches to Contact and Symplectic Topology	Mar 2026
	UC Berkeley, Topology Seminar	Feb 2026
	Joint IAS/Princeton University Symplectic Geometry Seminar	Nov 2025
	London Low Dimensional Topology Seminar (online)	Nov 2025
	Stanford University, Topology Seminar	Oct 2025
	California Institute of Technology, Geometry & Topology Seminar	Oct 2025
	ICTP Conference on Modern Developments in Low-Dimensional Topology	June 2025
	Duke University, Geometry/Topology Seminar	May 2025
	University of Oregon, Topology/Geometry Seminar	Feb 2025
Selected Honors	Centennial Fellowship, Princeton University	2023 – 2027
	ILJU Fellowship, ILJU Academy and Culture Foundation	2023 – 2028

Pure Mathematics Prize, University of Cambridge 2023
Leslie Walshaw Award, Trinity College 2023
Ver Heyden de Lancey Prize, Trinity College 2022
Presidential Science Scholarship, Republic of Korea 2017 – 2023
2019 – 2021: leave for mandatory national service

Service

Princeton University Student Topology Seminar Spring 2024 – present
Organizer (Spring 2024, Fall 2024, Spring 2025); Co-organizer (Fall 2025, Spring 2026)

Princeton University Topology Reading Seminar Spring 2024, Fall 2024, Fall 2025
Co-organizer (Spring 2024 *Khovanov homology and related topics*);
Organizer (Fall 2024 *Topics in Heegaard Floer homology*, Fall 2025 *New constructions of closed 4-manifolds*)

International Mathematical Olympiad (IMO) 2019, 2022, 2024, 2025
2019: Language Consultant; 2022, 2024, 2025: Coordinator

KAIST Advanced Mathematics Camp 2016
Teaching assistant; Probability and measure theory

Languages

Korean (native), **English** (fluent), **Mandarin Chinese**, **Japanese** (漢檢準2級)