

JungHwan Park

ACADEMIC POSITIONS	Seoul National University Associate Professor	2026–present
	Korea Advanced Institute of Science and Technology Associate Professor	2024–2026
	Assistant Professor	2021–2024
	Georgia Institute of Technology Visiting Assistant Professor	2018–2020
	Max Planck Institute for Mathematics Postdoctoral Fellow	2017–2018
EDUCATION	Rice University Ph.D. in Mathematics (<i>Advisors:</i> Tim D. Cochran and Shelly L. Harvey)	2011–2017
	Pohang University of Science and Technology B.S. in Mathematics	2005–2011
PREPRINTS ACCEPTED	Doubled Disks and Satellite Surfaces with G. Guth, K. Hayden, and S. Kang <i>arXiv:2310.19713</i> <i>Geom. Topol.</i> , to appear	
	Unknotting number and cabling with J. Hom and T. Lidman <i>arXiv:2206.04196</i> <i>Amer. J. Math.</i> , to appear	
	Seifert surfaces in the 4-ball with K. Hayden, S. Kim, M. Miller, and I. Sundberg <i>arXiv:2205.15283</i> <i>J. Eur. Math. Soc. (JEMS)</i> , to appear	
PUBLICATIONS	Isotopy and equivalence of knots in 3-manifolds with P. Aceto, C. Bregman, C. Davis, and A. Ray <i>J. Lond. Math. Soc. (2)</i> 113 (2026), no. 6, Paper No. e70600, 39 pp.	
	A survey on embeddings of 3-manifolds in definite 4-manifolds with P. Aceto and D. McCoy <i>Springer Proc. Math. Stat.</i> 546 (2026), 141–161.	
	Ribbon knots and iterated cables of fibered knots with J. Hom <i>Math. Z.</i> 313 (2026), no. 3, Paper No. 53, 18 pp.	
	Torsion in the knot concordance group and cabling with S. Kang <i>J. Eur. Math. Soc. (JEMS)</i> 28 (2026), no. 7, 3011–3047.	
	Cables of the figure-eight knot via real Frøyshov invariants with S. Kang and M. Taniguchi <i>Geom. Topol.</i> 30 (2026), no. 2, 781–833.	
	Slice obstructions from genus bounds in definite 4-manifolds with P. Aceto, N. Castro, M. Miller, and A. Stipsicz <i>Int. Math. Res. Not. IMRN</i> 2026, no. 2, Paper No. rnaf377, 8 pp	
	Exotic Dehn twists and homotopy coherent group actions with S. Kang and M. Taniguchi <i>Invent. Math.</i> 243 (2026), no. 1, 209–241	
	Definite fillings of lens spaces	

with P. Aceto and D. McCoy

J. Differential Geom. 131 (2025), no. 1, 1–41

Topologically and rationally slice knots

with J. Hom and S. Kang

Selecta Math. (N.S.) 31 (2025), no. 2, Paper No. 28, 17 pp

The $(2,1)$ -cable of the figure-eight knot is not smoothly slice

with I. Dai, S. Kang, A. Mallick, and M. Stoffregen

Invent. Math. 238 (2024), no. 2, 371–390

A note on rational band moves

with D. Chen, J. Hom, M. H. Kim and Z. Wu

Matematica 3 (2024), no.2, 777–782

A note on the concordance $\mathbb{Z}$ -genus

with A. Miller

Michigan Math. J. 74 (2024), no.1, 73–83

The $\mathbb{Z}$ -genus of boundary links

with P. Feller and M. Powell

Rev. Mat. Complut. 36 (2023), no. 1, 1–25

Linear independence of rationally slice knots

with J. Hom, S. Kang, and M. Stoffregen

Geom. Topol. 26 (2022), no. 7, 3143–3172

A ribbon obstruction and derivatives of knots

with M. Powell

Israel J. Math. 250 (2022), no. 1, 265–305

Non-simply connected symplectic fillings of lens spaces

with P. Aceto and D. McCoy

Bull. Lond. Math. Soc. 54 (2022), no. 3, 1010–1026

A note on the four-dimensional clasp number of knots

with P. Feller

Math. Proc. Cambridge Philos. Soc. 173 (2022), no. 1, 213–226

The relative Whitney trick and its applications

with C. Davis and P. Orson

Selecta Math. (N.S.) 28 (2022), no. 2, Paper No. 27

Ribbon knots, cabling, and handle decompositions

with J. Hom and S. Kang

Math. Res. Lett. 28 (2021), no.5, 1441–1457

Branched covers bounding rational homology balls

with P. Aceto, J. Meier, A. Miller, M. Miller, and A. Stipsicz

Algebr. Geom. Topol. 21 (2021), no. 7, 3569–3599

Pretzel links, mutation, and the slice-ribbon conjecture

with P. Aceto, M. H. Kim, and A. Ray

Math. Res. Lett. 28 (2021), no. 4, 945–966

On distinct finite covers of 3-manifolds

with S. Friedl, B. Petri, J. Raimbault, and A. Ray

Indiana Univ. Math. J. 70 (2021), no. 2, 809–846

Linear independence of cables in the knot concordance group

with C. Davis and A. Ray

Trans. Amer. Math. Soc. 374 (2021), no. 6, 4449–4479

Homology spheres and property R

with M. H. Kim

Proc. Amer. Math. Soc. 149 (2021), no. 3, 1323–1328

Concordance to links with an unknotted component

with C. Davis

Math. Proc. Cambridge Philos. Soc. 170 (2021), no. 1, 155–160

Genus one cobordisms between torus knots

with P. Feller

Int. Math. Res. Not. IMRN (2021), no. 1, 521–548

Rational cobordisms and integral homology

with P. Aceto and D. Celoria

Compos. Math. 156 (2020), no. 9, 1825–1845

Smooth and topological almost concordance

with M. Nagel, P. Orson, and M. Powell

Int. Math. Res. Not. IMRN (2019), no. 23, 7324–7355

Every genus one algebraically slice knot is 1-solvable

with C. Davis, T. Martin, C. Otto

Trans. Amer. Math. Soc. 372 (2019), no. 5, 3063–3082

On the Upsilon invariant and satellite knots

with P. Feller and A. Ray

Math. Z. 292 (2019), no. 3-4, 1431–1452

Links with nontrivial Alexander polynomial which are concordant to the Hopf link

with M. H. Kim and D. Krcatovich

Trans. Amer. Math. Soc. 371 (2019), no. 8, 5379–5400

Concordance of knots in $S^1 \times S^2$

with C. Davis, M. Nagel, and A. Ray

J. Lond. Math. Soc. (2) 98 (2018), no. 1, 59–84

A construction of slice knots via annulus modifications

Topology Appl. 238 (2018), 1–19

A family of topologically slice links with arbitrarily large smooth slice genus

with A. Ray

Proc. Amer. Math. Soc. 146 (2018), 439–448

Inequality on $t_\nu(K)$ defined by Livingston and Naik and its applications

Proc. Amer. Math. Soc. 145 (2017), 889–891

PREPRINTS

Ribbon concordance and cabling

with J. Hom *arXiv:2608.06625*

Non-kinetic homotopy coherent actions on four-manifolds

with S. Kang and M. Taniguchi *arXiv:2607.24548*

Unknotting number, ribbon concordance, and singular instantons

with H. Imori and M. Taniguchi *arXiv:2607.12768*

Smooth realizations of line configurations

with P. Aceto and D. McCoy *arXiv:2607.09439*

Lifting Milnor invariants for 3-component links

with C. Davis *arXiv:2605.23086*

Local knots, ν^+ -sharp knots, and rational slice genus

with Z. Wu and J. Yang [arXiv:2603.18619](#)

Special alternating links of minimal unlinking number

with D. McCoy [arXiv:2603.10732](#)

Forbidden configurations and definite fillings of lens spaces

with A. Fung [arXiv:2601.11083](#)

Exotic diffeomorphisms on a contractible 4-manifold surviving two stabilizations

with S. Kang and M. Taniguchi [arXiv:2510.12394](#)

Smooth concordance of cables of the figure-eight knot

with S. Kang and M. Taniguchi [arXiv:2505.03720](#)

A satellite formula for real Seiberg–Witten Floer homotopy types

with J. Miyazawa and M. Taniguchi [arXiv:2504.03270](#)

Concordance to boundary links and the solvable filtration

with C. Davis and S. Harvey [arXiv:2305.11268](#)

Handle decomposition complexibility and representation spaces

with P. Aceto, A. Daemi, J. Hom, and T. Lidman [arXiv:2210.06607](#)

Milnor’s triple linking number and derivatives of genus three knots

[arXiv:1603.09163](#)

AWARDS & GRANTS

Excellent Research Paper Award

Korean Mathematical Society, 2026

The Frontiers of Science Award

The International Congress of Basic Sciences, 2025

National Research Foundation Grant RS-2025-00542968

National Research Foundation of Korea, 2025–present

Member of Young Korean Academy of Science and Technology

The Korean Academy of Science and Technology, 2023–present

TJ Park Science Fellowship

POSCO TJ Park Foundation, 2022–2025

Samsung Science and Technology Foundation Grant

Samsung Science and Technology Foundation, 2021–present

Sangsan Prize for Young Mathematicians

Korean Mathematical Society, 2021

AMS-Simons Travel Grant

American Mathematical Society and Simons Foundation, 2020–2022

AIM SquaRE Grant (with P. Aceto, N. Castro, M. Miller, and A. Stipsicz)

Fibered ribbon knots and Casson–Gordon exotic 4-spheres, 2019–2025

Fulbright Graduate Study Award

Fulbright Korean-American Educational Commission, 2011–2013

TEACHING

Korea Advanced Institute of Science and Technology

MAS 101: Calculus I

Spring 2026

MAS 109: Introduction to Linear Algebra

Spring 2026

MAS 430: Combinatorial Topology

Fall 2025

MAS 101: Calculus I

Spring 2025

MAS 331: Topology

Spring 2025

MAS 102: Calculus II

Fall 2024

MAS 101: Calculus I

Spring 2024

MAS 109: Introduction to Linear Algebra

Spring 2024

MAS 430: Combinatorial Topology

Fall 2023

MAS 101: Calculus I	<i>Spring 2023</i>
MAS 331: Topology	<i>Spring 2023</i>
MAS 532: Algebraic Topology II	<i>Fall 2022</i>
MAS 531: Algebraic Topology I	<i>Spring 2022</i>
MAS 532: Algebraic Topology II	<i>Fall 2021</i>
MAS 531: Algebraic Topology I	<i>Spring 2021</i>

Georgia Institute of Technology

Math 1554: Linear Algebra	<i>Fall 2020</i>
Math 2106: Foundations of Mathematical Proof	<i>Spring 2020</i>
Math 1551: Differential Calculus	<i>Fall 2019</i>
Math 1552: Integral Calculus	<i>Spring 2019</i>
Math 1551: Differential Calculus	<i>Fall 2018</i>

Rice University

Math 355: Linear algebra	<i>Summer 2014</i>
Math 211: Ordinary differential equations and linear algebra	<i>Fall 2013</i>

STUDENTS

Hyeonwoo Lee	<i>Ph.D. expected 2030</i>
Hoon Lee	<i>Ph.D. expected 2029</i>
Kyo Hyeon Gu	<i>Ph.D. expected 2029</i>
Yunseo Jo	<i>Ph.D. expected 2027</i>
Dongjun Lee	<i>Ph.D. expected 2027</i>
Seokhyun Eum	<i>Ph.D. expected 2027</i>
KeeTaek Kim	<i>Ph.D. expected 2026</i>
Jaewon Lee	<i>Masters 2022, Ph.D. expected 2026</i>

POSTDOCS

Dongsoo Lee	<i>2023-2025</i>
Hayato Imori	<i>2024-present</i>
Antony T. H. Fung	<i>2025-present</i>