

HYERAN CHO

hyeran131@gmail.com

<https://hyeran131.wixsite.com/hyeran-cho>

1020 Benchmark Park Dr. Columbus, OH, 43220

RESEARCH AREAS

Geometric Group Theory, Topology, Differential Geometry, Knot Theory

EMPLOYMENT

Tufts University, USA
Norbert Wiener Assistant Professor

Sep 2025-

EDUCATION

The Ohio State University, USA
Ph.D., Mathematics
Advisor: Jean-Francois Lafont

Jul 2018 - Aug 2025

Pusan National University, South Korea
M.S., Mathematics

2015-2017

Advisor: Sang Youl Lee, Young Ho Im
Thesis Title: Classification of (1,1)-diagrams of 2-bridge knots

Pusan National University, South Korea
B.A., Mathematics Education

2011-2015

PAPERS

Derivation of Schubert normal forms of 2-bridge knots
with Sang Youl Lee, Hyun-Jong Song
Journal of Knot Theory and Its Ramifications(JKTR), 2019

2019

TEACHING

Tufts University
Practicum, MATH0032, Calculus 1

Fall 2025

The Ohio State University

Recitation, MATH1151, Calculus 1

Summer 2021-Fall 2022

Grader, MATH2568, Linear Algebra

Spring 2021

Grader, MATH2174, Linear algebra and differential equations

Fall 2020

Grader, MATH1181, Honors Calculus

Fall 2020

Grader, MATH3345, Foundation of Higher Mathematics

Spring 2020

Grader, MATH4568, Linear Algebra

Fall 2019

MSLC(Math and Stat Learning Center) Tutoring

Ohio State University

Aug 2019-Dec 2022

Pusan National University

Teaching assistant, MA24416, Topics in Topology

Spring 2017

Teaching assistant, MA16095, Set Theory

Fall 2016

Teaching assistant, MA22330, Topology(II)

Spring 2016

Teacher's Certificate(Secondary School) of Mathematics

Ministry of Education & Human Resources Development, Republic of Korea.
(government-recognized qualifications of level 2)

Feb 2015

Teaching Practice

Choongryul Middle School, South Korea

May 2014-June 2014

Volunteer Tutoring for the Blind

Busan School for the Blind, South Korea

2012-2015

RESEARCH ASSISTANT

Development of invariants for surface-links based on MGD and applications

Prof. Sang Youl Lee, Pusan National University

June 2016-May 2017

Development of invariants for virtual knots via parity functions and applications on knots in 3 dimensional manifolds

Prof. Young Ho Im, Pusan National University

May 2016-Apr 2017

Development of invariants via Gauss diagrams for virtual knots and knotoids, and their applications

Prof. Young Ho Im, Pusan National University

Aug 2015-Apr 2016

PRESENTATION

- Colloquium in Department of Mathematics, Inha University, KOREA *July 31, 2025*
- AWM Research Symposium, University of Wisconsin-Madison, USA *May 16, 2025*
- (Poster) YGGT XIII(Young Geometric Group Theory), University of Copenhagen, Denmark *Apr 9, 2025*
- GGT(Geometric Group Theory) Seminar, The Ohio State University, USA *Jan 21, 2025*
- JMM joint Mathematical Meetings(AWM), Seattle, USA *Jan 11, 2025*
- (Poster) 68th meeting at Texas A&M University, College Station, USA *Nov 9, 2024*
- (Lightning) YGGT XI(Young Geometric Group Theory), University of Münster, GERMANY *Feb 13, 2023*
- Knots and Representation theory seminar, Bauman Moscow State Technical University, Moscow, RUSSIA *Mar 12, 2021*
- Claremont Mckenna College Topology Seminar, Claremont Mckenna College, USA *Nov 12, 2019*
- AMS Sectional Meeting, University of California Riverside, USA *Nov 9, 2019*
- TGAA seminar(Topology, Geometry, and Applications-graduate Student Seminar), The Ohio State University, USA *Nov 1, 2019*
- Quantum Algebra and Quantum Topology Seminar, The Ohio State University, USA *Oct 31, 2019*
- 2018 KMS Spring Meeting, Kyung Hee University, Seoul, KOREA *Apr 20-22, 2018*
- The 9th KOOK-TAPU Joint Seminar on Knots and Related Topics & The 11th Graduate Student Workshop on Mathematics, Osaka City University, Osaka, JAPAN *Jul 24-28, 2017*
- 2017 Youngnam Mathematical Society Annual Meeting, UNIST, Ulsan, KOREA *Jun 30-Jul 01, 2017*
- (Poster) 2017 KWMS The 13th International Conference, POSTECH, KOREA *Jun 22-23, 2017*
- 2017 KMS Spring Meeting, Chosun University, Gwangju, KOREA *Apr 28-30, 2017*
- PNU Math Form, Pusan National University, Busan, KOREA *Dec 01-03, 2016*
- KOOK-TAPU Workshop of Knots, Tsuchima Island, JAPAN *Sep 05-09, 2016*

- The 8th KOOK-TAPU Joint Seminar on Knots and Related Topics & The 10th Graduate Student Workshop on Mathematics, Pusan National University, Busan, KOREA *Jul 25-29, 2016*
- 2016 Winter TAPU Workshop on Knots and Related Topics, Kyungpook National University, Daegu, KOREA *Feb 15-16, 2016*

SCHOLARSHIP

Special Graduate Assignment (SGA)

Ohio State University Department of Mathematics
(exception from teaching duty)

Spring 2023

Tibor Rado Graduate Fellowship

Ohio State University Department of Mathematics
(exception from teaching duty)

Fall 2018-Spring 2019

BK Scholarship

National Research Foundation of Korea

2015-2017

National Scholarship for Natural Sciences and Engineering

Korea Student Aid Foundation(KOSAF)
(4 years undergraduate full scholarship)

2011-2015

AWARDS

Award for Presentation Excellence

The 9th KOOK-TAPU Joint Seminar on Knots and Related Topics & The 11th Graduate Student Workshop on Mathematics, Osaka City University, JAPAN, *July 26, 2017*

CONFERENCES, PROGRAMS ATTENDED

- Mini-Workshop Reflection Groups in Magdeburg, Teaming up with Paris, Institute des Hautes Etudes Scientifiques (IHES), France *Feb 9-9, 2023*
- The 1st Midwest Graduate Student Conference: Geometry and Topology meet Data Analysis and Machine Learning, Volunteer, The Ohio State University, USA *June 1-2, 2019*
- PPICTA (The Pan Pacific International Conference on Topology and Applications), Volunteer, Busan, KOREA *Nov 13-17, 2017*
- Floer Homology and Homotopy Thoery Summer School and Conference, University of California at Los Angeles(UCLA), USA *July 7-19, 2017*
- International Conference for KMS 70th Anniversary, Seoul, KOREA *Oct 20-23, 2016*
- SEOUL ICM 2014 (International Congress of Mathematics), Seoul, KOREA *Aug 13-21, 2014*

ACTIVITIES

Zentrum

Computer Club related to SAGEMATH and PYTHON program
(with 'Project Euler: <https://projecteuler.net>') *2015-2017*

Data Science Boot Camp (Certificate)

The Erdos Institute

Sep-Dec 2023

COMPUTER SKILLS

Wolfram Mathematica, Sagemath, PYTHON, Microsoft Office, TEX, Illustrator