

Inyoung Ryu

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INTERESTS

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- Surface group representations, Character variety
 - Mapping Class Groups and Teichmüller space, Teichmüller Theory
 - Low-dimensional Topology, Geometric Group Theory

EDUCATION

Texas A&M University <i>Ph.D. in Mathematics</i>	Aug.2021 – Present <i>Texas, US</i>
Ulsan National Institute of Science and Technology(UNIST) <i>Bachelor of Science in Mathematical Science</i>	Mar.2017 – Jul.2021 <i>Ulsan, Korea</i>
<ul style="list-style-type: none">• Minor in Computer Science and Engineering• Total GPA of 3.99 / 4.3 (95.9 / 100)	

Sabanci University <i>Erasmus Program</i>	Feb. 2020 – Jun. 2020 <i>Istanbul, Turkey</i>
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RESEARCH

On totally hyperbolic non-Fuchsian type-preserving representations <i>arXiv:2511.13989</i>	Nov. 2025
Connected components of spaces of type-preserving representations <i>with T. Yang, arXiv: 2502.05078</i>	Jul. 2025

STUDY ON OTHER INTERESTS

End-periodic maps Group study seminar <i>Texas A&M University</i>	Aug. 2025 – Dec. 2025 <i>Texas, US</i>
Reading Course with Prof. Tian Yang <i>Texas A&M University</i>	Feb. 2022 – Oct. 2023 <i>Texas, US</i>
<ul style="list-style-type: none">• Teichmüller Theory and Nielsen-Thurston Classification• Mapping Class Group and Teichmüller Space, Moduli Space• Knot Theory. Jones Polynomial and Alexander Polynomial	
Reading Course with Prof. Guoliang Yu <i>Texas A&M University</i>	Feb. 2022 – May. 2022 <i>Texas, US</i>
<ul style="list-style-type: none">• Fredholm Operator and Higher index Theory	
Reading Course with Prof. Irina Bobkova <i>Texas A&M University</i>	Sep. 2022 – May. 2023 <i>Texas, US</i>
<ul style="list-style-type: none">• Algebraic Topology, Stable Homotopy Theory	
Low dimensional Topology Seminar <i>Texas A&M University</i>	Feb. 2022 – May. 2023 <i>Texas, US</i>
<ul style="list-style-type: none">• Smooth 4-Manifolds and Intersection Forms• Teichmüller theory, Nielson-Thurston Classification	
Interdisciplinary Project <i>UNIST</i>	Sep. 2020 – Feb. 2021 <i>Ulsan, Korea</i>
Undergraduate Research Assistant <i>UNIST</i>	Jul. 2019 – Aug. 2019 <i>Ulsan, Korea</i>

TALKS

Connected components of the space of type-preserving representations	Nov. 2025
<i>SHSU Junior Colloquium</i>	<i>Texas, US</i>
Connected components of the space of type-preserving representations	Sep. 2025
<i>Ventotene Workshop on Higher dimensional hyperbolic geometry</i>	<i>Ventotene, Italy</i>
Connected components of the space of type-preserving representations	Jun. 2025
<i>2K-GATE Workshop, Korea Institute for Advanced Study</i>	<i>Seoul, Korea</i>
Connected components of the space of type-preserving representations	May. 2025
<i>GTA: Philadelphia 2025, Temple University</i>	<i>Pennsylvania, US</i>
Connected components of the space of type-preserving representations	May. 2025
<i>53rd Barrett Lectures: Recent Development in Geometric Group Theory, University of Tennessee</i>	<i>Tennessee, US</i>
Connected components of the space of type-preserving representations	Apr. 2025
<i>CIRM School on Geometric structures and discrete group actions</i>	<i>Marseille, France</i>
Connected components of the space of type-preserving representations	Apr. 2025
<i>Graduate Student Conference in Topology and Geometry, Indiana University Bloomington</i>	<i>Indiana, US</i>
Connected components of the space of type-preserving representations	Feb. 2025
<i>KIAS HCMC Topology Seminar, Korea Institute for Advanced Study (Online)</i>	<i>Seoul, Korea</i>
Connected components of the space of type-preserving representations	Jan. 2025
<i>Conference on Geometry and Dynamics in Low Dimensions, IMVAST</i>	<i>Hanoi, Vietnam</i>
Geometric Approach to Surface Group Representations	Sep. 2024
<i>Graduate Student Organization Seminar, Texas A&M University</i>	<i>Texas, US</i>
Topological Components of Spaces of Representations	Aug. 2024
<i>Low-dimensional Topology Seminar, Seoul National University</i>	<i>Seoul, Korea</i>
Nielsen-Thurston Classification	Apr. 2024
<i>GIGEM Conference, Texas A&M University</i>	<i>Texas, US</i>
Mapping Class Group Action on Teichmüller Space	Apr. 2024
<i>Graduate Student Organization Seminar, Texas A&M University</i>	<i>Texas, US</i>

PARTICIPATED CONFERENCES/WORKSHOPS

Joint Mathematics Meeting (JMM)	Jan. 2026
<i>Walter E. Washington Convention Center</i>	<i>Washington, D.C., US</i>
Ventotene Workshop on Higher dimensional hyperbolic geometry	Sep.2025
	<i>Ventotene, Italy</i>
SLMath Summer School: Geometry and Dynamics in Higher Rank Lie Groups	Jul.2025
<i>University of California, Berkeley</i>	<i>California, US</i>
Workshop: Low-dimensional phenomena: geometry and dynamics	Jun.2025
<i>Institut henri poincaré</i>	<i>Paris, France</i>
2K-GATE Workshop	Jun.2025
<i>Korea Institute for Advanced Study</i>	<i>Seoul, Korea</i>
GTA: Philadelphia 2025	May.2025
<i>Temple University</i>	<i>Pennsylvania, US</i>
53rd Barrett Lectures: Recent Development in Geometric Group Theory	May.2025
<i>University of Tennessee</i>	<i>Tennessee, US</i>
CIRM School on Geometric structures and discrete group actions	Apr.2025
<i>Centre International de Rencontres Mathématiques</i>	<i>Marseille, France</i>
Graduate Student Conference in Topology and Geometry	Apr.2025
<i>Indiana University Bloomington</i>	<i>Indiana, US</i>
Workshop on Lorentzian, Affine, and Hyperbolic Differential Geometry	Apr.2025
<i>Univsersity of Maryland</i>	<i>Maryland, US</i>
Workshop on Motives and Mapping Class Groups	Jan. 2025
<i>American Institute of Mathematics, Caltech</i>	<i>California, US</i>

Winter School Côte d'Azur	Jan. 2025
<i>Université Côte d'Azur</i>	<i>Nice, France</i>
Conference on Geometry and Dynamics in Low Dimensions	Jan. 2025
<i>Institute of Mathematics, Vietnam Academy of Science and Technology</i>	<i>Hanoi, Vietnam</i>
Texas Geometry and Topology Conference	Nov. 2024
<i>Texas A&M University</i>	<i>Texas, US</i>
AMS Central Sectional Meeting	Sep. 2024
<i>University of Texas at San Antonio</i>	<i>Texas, US</i>
Canaryfest - Moving to higher rank: from hyperbolic to Anosov	July. 2024
<i>Grand Hotel St. Michele</i>	<i>Cetraro, Italy</i>
AlMaRe Conference	July. 2024
<i>Fourier Institute</i>	<i>Grenoble, France</i>
Conference on Quantum Topology and Connections to Mathematical Physics	May. 2024
<i>Texas A&M University</i>	<i>Texas, US</i>
GIGEM Conference	April. 2024
<i>Texas A&M University</i>	<i>Texas, US</i>
Joint Mathematics Meeting (JMM)	Jan. 2024
<i>Moscone Center</i>	<i>California, US</i>
Winter School on Low-dimensional Topology and Related Topics	Dec. 2023
<i>Institute for Basic Science</i>	<i>Pohang, Korea</i>
Texas Geometry and Topology Conference.	Nov. 2023
<i>Rice University</i>	<i>Texas, US</i>
Conference on Characters and Moduli of Surfaces	Jul. 2023
<i>Kyoto University</i>	<i>Kyoto, Japan</i>
Summer School on Scissors Congruence, Algebraic K-Theory, and Trace Methods	Jun. 2023
<i>Indiana University</i>	<i>Indiana, US</i>
Workshop in Geometric Topology	Jun. 2023
<i>Colorado College</i>	<i>Colorado, US</i>
AMS Southeastern Sectional Meeting	Mar. 2023
<i>Georgia Institute of Technology</i>	<i>Georgia, US</i>
Winter school in singularities and low-dimensional topology	Jan. 2023
<i>Rényi Institute</i>	<i>Budapest, Hungary</i>
Graduate Student Topology and Geometry Conference	Apr. 2022
<i>Georgia Institute of Technology</i>	<i>Georgia, US</i>
Texas Geometry and Topology Conference	Feb. 2022
<i>The University of Texas at Dallas</i>	<i>Texas, US</i>
The South Central Topology Conference	Sep. 2021
<i>Texas A&M University</i>	<i>Texas, US</i>
Arizona Winter School	Jan. 2021-Feb. 2021
<i>University of Arizona</i>	<i>Arizona, US</i>
International Congress of Mathematicians(ICM)	Aug. 2014
	<i>Seoul, Korea</i>

TEACHING/MENTORING EXPERIENCES

Instructor of record (Business Calculus)	Jan. 2026 - May. 2026
<i>Texas A&M University</i>	<i>Texas, US</i>
Direct Reading Program - A first course in Algebraic Topology	Sep. 2025 - Dec. 2025
<i>Texas A&M University</i>	<i>Texas, US</i>
Grader, MATH 636 (Topology I)	Sep. 2025 - Dec. 2025
<i>Texas A&M University</i>	<i>Texas, US</i>
Python Lab Assignment, MATH 150 (Functions, Trigonometry and Linear Systems)	Jul. 2025
<i>Texas A&M University</i>	<i>Texas, US</i>

MATH 467 (Modern Geometry) Grader	Jan. 2025 - May.2025
<i>Texas A&M University</i>	<i>Texas, US</i>
No Teaching Assistant Duties, supported by NSF Grant, P.I. - Tian Yang	Sep. 2024 - Dec.2024
<i>Texas A&M University</i>	<i>Texas, US</i>
Houston A&M Mothers' Club Outstanding TA Award	Jul. 2024
<i>Texas A&M University</i>	<i>Texas, US</i>
No Teaching Assistant Duties, supported by NSF Grant, P.I. - Tian Yang	Jul. 2024 – Dec. 2024
<i>Texas A&M University</i>	<i>Texas, US</i>
Help Session Tutor, Math 142 (Business Calculus)	Jun. 2024
<i>Texas A&M University</i>	<i>Texas, US</i>
No Teaching Assistant Duties, supported by NSF Grant, P.I. - Tian Yang	Jan. 2024 – May. 2024
<i>Texas A&M University</i>	<i>Texas, US</i>
Grader, Math 636 (Topology I)	Aug. 2023 – Dec. 2023
<i>Texas A&M University</i>	<i>Texas, US</i>
Grader, Math 142 (Business Calculus)	Jul. 2023
<i>Texas A&M University</i>	<i>Texas, US</i>
Python Labs, Math 151(Engineering Math I)	Jun. 2023
<i>Texas A&M University</i>	<i>Texas, US</i>
Teaching Assistant, Math 152(Engineering Math II)	Jan. 2023 – May. 2023
<i>Texas A&M University</i>	<i>Texas, US</i>
Teaching Assistant, Math 151(Engineering Math I)	Aug. 2022 – Dec. 2022
<i>Texas A&M University</i>	<i>Texas, US</i>
Grader, Math 304 (Linear Algebra)	Jun. 2022
<i>Texas A&M University</i>	<i>Texas, US</i>
Grader, Math 423 (Linear Algebra II)	Jan. 2022 – May. 2022
<i>Texas A&M University</i>	<i>Texas, US</i>
Grader, Math 467 (Modern Geometry)	Aug. 2021 – Dec. 2021
<i>Texas A&M University</i>	<i>Texas, US</i>
Teaching Assistant(Calculus I, Calculus II)	Mar. 2018 – Dec. 2019
<i>Ulsan National Institute of Science and Technology</i>	<i>Ulsan, Korea</i>
Calculus I Open Lecture	Jun.2018
<i>Ulsan National Institute of Science and Technology</i>	<i>Ulsan, Korea</i>

LEADERSHIP/VOLUNTEER EXPERIENCES

Treasurer	Aug.2022 - May.2023
<i>Association for Women in Mathematics (Texas A&M, 60 members)</i>	<i>Texas, US</i>
• Women in Math Mentoring Lunch	
• AWM peer mentoring program	
Teaching Assistant for Math Circle	Nov. 2023
<i>Texas A&M Math Circle</i>	<i>Texas, US</i>
Grader for High School Math Contest	Nov. 2023
<i>Texas A&M High School Mathematics Contest</i>	<i>Texas, US</i>
Grader for High School Math Contest	Nov. 2022
<i>Texas A&M High School Mathematics Contest</i>	<i>Texas, US</i>