

Inyoung Ryu

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Mathematics Department
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RESEARCH INTERESTS

- Surface group representations and Character variety
- Mapping class groups and Teichmüller space
- Low-dimensional topology and 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> • Minor in Computer Science and Engineering	Mar.2017 – Jul.2021 <i>Ulsan, Korea</i>
Sabancı University <i>Erasmus Program</i>	Feb. 2020 – Jun. 2020 <i>Istanbul, Turkey</i>

PUBLICATION/PREPRINTS

From Bowditch question to Goldman conjecture for type-preserving representations <i>with Viraj Joshi, submitted, arXiv: 2609.02065</i>	Sep. 2026
On totally hyperbolic non-Fuchsian type-preserving representations <i>Submitted, arXiv:2511.13989</i>	Nov. 2025
Connected components of spaces of type-preserving representations <i>with Tian Yang, submitted, arXiv: 2502.05078</i>	Jul. 2025

INVITED SEMINAR/COLLOQUIUM TALKS

(Upcoming) Two invariants of type-preserving representations and applications <i>Joint mathematics meetings 2027</i>	Jan. 2027 <i>Illinois, US</i>
(Upcoming) Two invariants of type-preserving representations and applications <i>Long distance GGT Seminar, Centro de Ciencias Matemáticas UNAM (Online)</i>	Sep. 2026 <i>Morelia, Mexico</i>
Two invariants of type-preserving representations and applications <i>Topology Seminar, University of Tennessee</i>	Apr. 2026 <i>Tennessee, US</i>
Two invariants of type-preserving representations and applications <i>Topology & Geometry Seminar, Rutgers University</i>	Apr. 2026 <i>New Jersey, US</i>
Two invariants of type-preserving representations and applications <i>Algebra & Combinatorics Seminar, Texas A&M University</i>	Mar. 2026 <i>Texas, US</i>
Two invariants of type-preserving representations and applications <i>Groups & Dynamics Seminar, University of Texas Austin</i>	Mar. 2026 <i>Texas, US</i>
Two invariants of type-preserving representations and applications <i>Groups & Dynamics Seminar, Texas A&M University</i>	Feb. 2026 <i>Texas, US</i>
Connected components of the space of type-preserving representations <i>SHSU Junior Colloquium, Sam Houston State University</i>	Nov. 2025 <i>Texas, US</i>
Connected components of the space of type-preserving representations <i>KIAS HCMC Topology Seminar, Korea Institute for Advanced Study (Online)</i>	Feb. 2025 <i>Seoul, Korea</i>
Geometric approach to surface group representations <i>Graduate Student Organization Seminar, Texas A&M University</i>	Sep. 2024 <i>Texas, US</i>
Topological components of spaces of representations <i>SNU Topology Seminar, Seoul National University (Online)</i>	Aug. 2024 <i>Seoul, Korea</i>
Mapping class group action on Teichmüller Space <i>Graduate Student Organization Seminar, Texas A&M University</i>	Apr. 2024 <i>Texas, US</i>

CONTRIBUTED TALKS

(Upcoming) On totally hyperbolic non-Fuchsian type-preserving representations <i>AMS 2026 Fall Western Sectional Meeting, Arizona State University</i>	Nov. 2026 Arizona, US
(Upcoming) Non-Fuchsian totally hyperbolic type-preserving representations <i>AMS 2026 Fall Central Sectional Meeting, University of Minnesota Duluth</i>	Oct. 2026 Minnesota, US
Connected components of the space of type-preserving representations <i>GTA: Philadelphia 2025, Temple University</i>	May. 2025 Pennsylvania, US
Connected components of the space of type-preserving representations <i>CIRM School on Geometric structures and discrete group actions</i>	Apr. 2025 Marseille, France
Connected components of the space of type-preserving representations <i>Graduate Student Conference in Topology and Geometry, Indiana University Bloomington</i>	Apr. 2025 Indiana, US
Nielsen-Thurston classification <i>GIGEM Conference, Texas A&M University</i>	Apr. 2024 Texas, US

LIGHTNING TALKS/POSTER PRESENTATION

Can a non-Fuchsian representation be totally hyperbolic? <i>Vanderbilt colloquium series: Groups, geometry, and dynamics (ICM satellite conference)</i>	Jul. 2026 Tennessee, US
Poster Presentation: Non-Fuchsian Totally hyperbolic Representations <i>Young Geometric Group Theory XIV</i>	Jun. 2026 Seoul, Korea
Connected components of the space of type-preserving representations <i>Ventotene Workshop on Higher dimensional hyperbolic geometry</i>	Sep. 2025 Ventotene, Italy
Connected components of the space of type-preserving representations <i>2K-GATE Workshop, Korea Institute for Advanced Study</i>	Jun. 2025 Seoul, Korea
Connected components of the space of type-preserving representations <i>53rd Barrett Lectures: Recent Development in Geometric Group Theory</i>	May. 2025 Tennessee, US
Connected components of the space of type-preserving representations <i>Conference on Geometry and Dynamics in Low Dimensions, IMVAST</i>	Jan. 2025 Hanoi, Vietnam

SELECTED CONFERENCE/WORKSHOPS

International Congress of Mathematicians (ICM 2026)	Jul. 2026 Pennsylvania, US
Joint Mathematics Meeting (JMM 2026)	Jan. 2026 Washington, D.C., US
Workshop on Homogeneous Dynamics and Anosov Representations <i>Simons Laufer Mathematical Sciences Institute</i>	Apr. 2026 California, US
SLMath Summer School: Geometry and Dynamics in Higher Rank Lie Groups <i>University of California, Berkeley</i>	Jul. 2025 California, US
Workshop on Low-dimensional phenomena: geometry and dynamics <i>Institut henri poincaré</i>	Jun. 2025 Paris, France
Workshop on Lorentzian, Affine, and Hyperbolic Differential Geometry <i>University of Maryland</i>	Apr. 2025 Maryland, US
Workshop on Motives and Mapping Class Groups <i>American Institute of Mathematics, Caltech</i>	Jan. 2025 California, US
Joint Mathematics Meeting (JMM 2024)	Jan. 2024 California, US
Conference on Characters and Moduli of Surfaces <i>Kyoto University</i>	Jul. 2023 Kyoto, Japan

HONORS/AWARDS/GRANTS

AMS Fall 2026 Sectional Meeting Travel Grant <i>American Mathematical Society</i>	Sep. 2024 Texas, US
Houston A&M Mothers' Club Outstanding TA Award <i>Selected for going above and beyond expectations as a teaching assistant</i>	Jul. 2024 Texas, US

TEACHING

Graduate Research Assistant, supported by NSF Grant, P.I. - Tian Yang <i>Texas A&M University</i>	Sep. 2026 - Dec.2026 <i>Texas, US</i>
Python Lab Assignment, MATH 151/152 (Engineering Mathematics I/II) <i>Texas A&M University</i>	Jul.2026 <i>Texas, US</i>
Instructor of record, Math 142 (Business Calculus) <i>Texas A&M University</i>	Jan. 2026 - May. 2026 <i>Texas, US</i>
Grader, MATH 636 (Topology I) <i>Texas A&M University</i>	Sep. 2025 - Dec.2025 <i>Texas, US</i>
Python Lab Assignment, MATH 150 (Functions, Trigonometry and Linear Systems) <i>Texas A&M University</i>	Jul.2025 <i>Texas, US</i>
MATH 467 (Modern Geometry) Grader <i>Texas A&M University</i>	Jan. 2025 - May.2025 <i>Texas, US</i>
Graduate Research Assistant, supported by NSF Grant, P.I. - Tian Yang <i>Texas A&M University</i>	Sep. 2024 - Dec.2024 <i>Texas, US</i>
Graduate Research Assistant, supported by NSF Grant, P.I. - Tian Yang <i>Texas A&M University</i>	Jul. 2024 – Dec. 2024 <i>Texas, US</i>
Help Session Tutor, Math 142 (Business Calculus) <i>Texas A&M University</i>	Jun. 2024 <i>Texas, US</i>
Graduate Research Assistant, supported by NSF Grant, P.I. - Tian Yang <i>Texas A&M University</i>	Jan. 2024 – May. 2024 <i>Texas, US</i>
Grader, Math 636 (Topology I) <i>Texas A&M University</i>	Aug. 2023 – Dec. 2023 <i>Texas, US</i>
Grader, Math 142 (Business Calculus) <i>Texas A&M University</i>	Jul. 2023 <i>Texas, US</i>
Python Labs, Math 151(Engineering Math I) <i>Texas A&M University</i>	Jun. 2023 <i>Texas, US</i>
Teaching Assistant, Math 152(Engineering Math II) <i>Texas A&M University</i>	Jan. 2023 – May. 2023 <i>Texas, US</i>
Teaching Assistant, Math 151(Engineering Math I) <i>Texas A&M University</i>	Aug. 2022 – Dec. 2022 <i>Texas, US</i>
Grader, Math 304 (Linear Algebra) <i>Texas A&M University</i>	Jun. 2022 <i>Texas, US</i>
Grader, Math 423 (Linear Algebra II) <i>Texas A&M University</i>	Jan. 2022 – May. 2022 <i>Texas, US</i>
Grader, Math 467 (Modern Geometry) <i>Texas A&M University</i>	Aug. 2021 – Dec. 2021 <i>Texas, US</i>
Teaching Assistant(Calculus I, Calculus II) <i>Ulsan National Institute of Science and Technology</i>	Mar. 2018 – Dec. 2019 <i>Ulsan, Korea</i>
Calculus I Open Lecture <i>Ulsan National Institute of Science and Technology</i>	Jun.2018 <i>Ulsan, Korea</i>

MENTORING

Direct Reading Program - A first course in Algebraic Topology <i>Texas A&M University</i>	Sep. 2025 - Dec.2025 <i>Texas, US</i>
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SERVICE

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