

# Inyoung Ryu

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## INTERESTS

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Character Variety, Mapping Class Groups and Teichmüller space, Teichmüller Theory,  
Low-dimensional Topology, Geometric Group Theory

## EDUCATION

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### Texas A&M University

*Ph.D. in Mathematics*

Aug.2021 – Present

*Texas, US*

### Ulsan National Institute of Science and Technology(UNIST)

*Bachelor of Science in Mathematical Science*

Mar.2017 – Jul.2021

*Ulsan, Korea*

- Minor in Computer Science and Engineering
- Total GPA of 3.99 / 4.3 (95.9 / 100)

### Sabancı University

*Erasmus Program*

Feb. 2020 – Jun. 2020

*Istanbul, Turkey*

## RESEARCH/STUDY EXPERIENCES

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### In Progress - Topology on Representation Spaces

*Texas A&M University*

Nov. 2023 – Current

*Texas, US*

### Reading Course with Prof. Tian Yang

*Texas A&M University*

Feb. 2022 – Oct. 2023

*Texas, US*

- 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. Tian Yang

*Texas A&M University*

Feb. 2022 – May. 2022

*Texas, US*

- Mapping Class Group and Teichmüller Theory
- Knot Theory. Jones Polynomial and Alexander Polynomial

### Reading Course with Prof. Guoliang Yu

*Texas A&M University*

Feb. 2022 – May. 2022

*Texas, US*

- Fredholm Operator and Higher index Theory

### Reading Course with Prof. Irina Bobkova

*Texas A&M University*

Sep. 2022 – May. 2023

*Texas, US*

- Algebraic Topology, Stable Homotopy Theory

### Low dimensional Topology Seminar

*Texas A&M University*

Feb. 2022 – May. 2023

*Texas, US*

- Smooth 4-Manifolds and Intersection Forms
- Teichmüller theory, Nielson-Thurston Classification

### Interdisciplinary Project

*UNIST*

Sep. 2020 – Feb. 2021

*Ulsan, Korea*

### Undergraduate Research Assistant

*UNIST*

Jul. 2019 – Aug. 2019

*Ulsan, Korea*

## PARTICIPATED CONFERENCES/WORKSHOPS

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

## TALKS

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<b>Geometric Approach to Surface Group Representations</b> <i>Graduate Student Organization Seminar, Texas A&amp;M University</i>	Sep. 2024 <i>Texas, US</i>
<b>Topological Components of Spaces of Representations</b> <i>Low-dimensional Topology Seminar, Seoul National University</i>	Aug. 2024 <i>Seoul, Korea</i>
<b>Nielsen-Thurston Classification</b> <i>GIGEM Conference, Texas A&amp;M University</i>	Apr. 2024 <i>Texas, US</i>
<b>Mapping Class Group Action on Teichmüller Space</b> <i>Graduate Student Organization Seminar, Texas A&amp;M University</i>	Apr. 2024 <i>Texas, US</i>

## TEACHING EXPERIENCES

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

## LEADERSHIP/VOLUNTEER EXPERIENCES

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<b>Treasurer</b> <i>Association for Women in Mathematics (Texas A&amp;M, 60 members)</i>	Aug.2022 - May.2023 <i>Texas, US</i>
<ul style="list-style-type: none"><li>• Women in Math Mentoring Lunch</li><li>• AWM peer mentoring program</li></ul>	
<b>Teaching Assistant for Math Circle</b> <i>Texas A&amp;M Math Circle</i>	Nov. 2023 <i>Texas, US</i>
<b>Grader for High School Math Contest</b> <i>Texas A&amp;M High School Mathematics Contest</i>	Nov. 2023 <i>Texas, US</i>
<b>Grader for High School Math Contest</b> <i>Texas A&amp;M High School Mathematics Contest</i>	Nov. 2022 <i>Texas, US</i>