

# Juan Felipe Ariza Mejía

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## Education

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<b>Ph.D. in Mathematics, The University of Iowa</b> , Iowa City, USA	2021 - May 2026 (expected)
Advisor: Prof. Ionuț Chifan	
<b>MMATH in Pure Mathematics, University of Waterloo</b> , Waterloo, Canada	2019 - 2020
Advisor: Prof. Nico Spronk	
<b>Bs.C. in Mathematics, Universidad de los Andes</b> , Bogotá, Colombia	2013 - 2018
Advisor: Prof. Stefano Ferri	
<b>Bs.C. in Physics, Universidad de los Andes</b> , Bogotá, Colombia	2013 - 2018
Advisor: Prof. Andrés F. Reyes Lega (co-advisor: Dr. Mitsuru Wilson)	

## Research Interests

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Operator Algebras – Structural properties for von Neumann algebras - Rigidity for group von Neumann algebras and group C\*-algebras

Group Theory – Analytic and approximation properties for groups - Geometric Group Theory

Ergodic Theory – Orbit equivalence relations - Measured Group Theory

## Publications – Preprints

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1. *Relative solidity results and their applications to computations of some  $\text{II}_1$  factor invariants* (2025), D. N. Amaraweera Kalutotage, J.F. Ariza Mejía, I. Chifan and K. Khan. arXiv:2509.19481
2. *McDuff superrigidity for group  $\text{II}_1$  factors*, J. F. Ariza Mejía, I. Chifan, D. Osin and B. Sun. Preprint: 2025
3. *Examples of non-amenable groups that are  $C^*$ -superrigid but not  $W^*$ -superrigid*, J. F. Ariza Mejía, I. Chifan, D. Drimbe and A. Fernández Quero. In preparation: 2025

## Selected Talks

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1. JMM 2026, AMS Special Session on Advances in Operator Algebras I, Washington D.C., January 2026 (upcoming)
2. University of California, San Diego – Functional Analysis Seminar, December 2025 (upcoming)
3. The University of Iowa – Operator Theory Seminar, September 2025
4. AMS 2025 Spring Central Sectional Meeting, Special Session on Advances in Operator Algebras I, University of Kansas, March 2025
5. Invited lightning talk at Group Operator Algebras: Classification, Structure and Rigidity, Banff International Research Station, Canada, September 2024
6. Invited lightning talk at YMC\*A: Young Mathematicians in  $C^*$ -algebras, University of Glasgow, August 2024
7. Two-part invited expository talk at Groundwork for Operator Algebras Lecture Series, IPAM Institute for Pure and Applied Mathematics, Los Angeles, July 2024

8. Contributed talk at Great Plains Operator Theory Symposium, University of Nebraska-Lincoln, June 2024
9. Purdue University – Operator Algebra Seminar, February 2024
10. The University of Iowa – Operator Theory Seminar, November 2023

## Teaching

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### Instructor on Record

#### **Department of Mathematics, The University of Iowa**

Elementary Functions	Fall 2023
Analysis Qualifying Exam Preparation Seminar (co-instructor)	Summer 2023
Trigonometry	Spring 2023
College Algebra	Fall 2022

### Teaching Assistant

#### **Department of Mathematics, The University of Iowa**

Foundations of Analysis	Fall 2025
Engineer Math I: Single Variable Calculus	Spring 2025
Introduction to Analysis II (helper) – <i>1st year graduate course for which I held weekly office hours and helped with weekly assignments solving doubts and giving feedback</i>	Spring 2025
Calculus I	Fall 2024
Introduction to Analysis I (helper) – <i>1st year graduate course for which I held weekly office hours and helped with weekly assignments solving doubts and giving feedback</i>	Fall 2024
Engineering Math II: Multivariable Calculus	Spring 2022
Engineer Math II: Multivariable Calculus	Fall 2021
Calculus for Biological Sciences	Fall 2021

#### **Department of Pure Mathematics, University of Waterloo**

Calculus I for Sciences	Spring 2020
Calculus II for Engineering	Spring 2020
Introduction to Real Analysis	Winter 2020
Calculus II (Advanced)	Winter 2020
Linear Algebra	Fall 2019

#### **Department of Mathematics, Universidad de los Andes**

Integral Calculus with Differential Equations	First Semester 2017
Linear Algebra	Second semester 2017

#### **Department of Physics, Universidad de los Andes**

Physics Problem Solving Center helper	First semester 2016
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## Other Conferences and Workshops attended

- ECOAS 2025 - East Coast Operator Algebras Symposium, University of Nebraska - Lincoln October 2025
- Workshop on Operator Algebras and Applications: Groups and Group Actions, Fields Institute, Toronto October 2023
- YMC\*A 2023 - Young Mathematicians in C\*-algebras, KU Leuven August 2023

NCGOA Spring Institute 2023 - Non-commutative Geometry and Operator Algebras, Vanderbilt University	
	May 2023
Modern Trends in Operator Algebras Conference, UCLA	March 2023
Workshop on Von Neumann Algebras and Geometric Group Theory, UCSD	February 2023
ECOAS 2022 - East Coast Operator Algebras Symposium, Michigan State University	October 2022
YMC*A 2022 - Young Mathematicians in C*-algebras, University of Oslo	August 2022
GOALS 2022 - Groundwork for Operator Algebras Lecture Series, University of Montana	July 2022
COSy 2022, Canadian Operator Symposium, University of Ottawa	June 2022
Topological Quantum Groups, C*-Tensor Categories, and Subfactors Summer School and Workshop, University of Waterloo	May 2022

## Service

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Co-organizer and co-webmaster, UIowa Operator Algebras Research Seminar	Fall 2025
Contributed lecture at GOALS 2025 - Groundwork for Operator Algebras Lecture Series (online)	
W*-lecture 2.1 Abelian von Neumann Algebras	June 2025
Invited Expository Speaker at GOALS 2024, IPAM, Los Angeles	July 2024
Graduate Student Mentor for the Directed Reading Program	Fall 2022, Fall 2023, Fall 2024
Graduate Student Senate (Mathematics alternate senator)	August 2024 - August 2025
Graduate Student Senate (Mathematics senator)	August 2023 - August 2024
Co-organizer Jakobsen Graduate Research Showcase	March 2024
Co-organizer Operator Theory and Operator Algebras Student Seminar	Fall 2023, Fall 2025
Co-creator Operator Theory and Operator Algebras Student Seminar	Spring 2023

## Selected Honors and Awards

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Post-Comprehensive Research Fellowship Graduate College, The University of Iowa	Spring 2024
Erwin and Peggy Kleinfeld Scholar Mathematics Department, The University of Iowa	Fall 2023 - Spring 2026
Kleinfeld Research Scholarship (for passing two Ph.D. qualifying exams upon admission) Mathematics Department, The University of Iowa	Fall 2021
Kleinfeld Math Graduate Recruitment Fellowship Mathematics Department, The University of Iowa	Fall 2021, Summer 2022, Summer 2023
University of Waterloo Graduate Scholarship University of Waterloo	Spring 2020
Mathematics Faculty Graduate Award University of Waterloo	Winter 2020
Joseph Wai-Hung Liu Graduate Scholarship University of Waterloo	Winter 2020
University of Waterloo Graduate Scholarship University of Waterloo	Fall 2019
Alberto Magno award, best undergraduate admission score Universidad de los Andes	Second semester 2013