

ACADEMIC POSITIONS

University of Notre Dame du Lac

Provost Society of Science Fellow.

Postdoctoral Research Associate.

Indiana, USA

2025 - 2028

Instituto de Ciencias Matemáticas

Predoctoral Researcher for the Spanish National Research Council.

Ph.D. in Geometry and Algebra.

Madrid, Spain

2021 - 2025

- Advisor: Prof. Javier Aramayona
- Research area: Mapping class groups & Teichmüller theory

EDUCATION

Universidad Autónoma de Madrid

Master in Mathematics and Applications

Madrid, Spain

2020 - 2021

- Master thesis: Modular groups and arc complexes **(10/10)**
- GPA: 9.64/10

Universidad Autónoma de Madrid

Double degree in Mathematics and Computer Science

Madrid, Spain

2015 - 2020

- Final year project for Mathematics: Classification of surfaces **(10/10)**
- Awarded 29 *Matrículas de Honor* (Highest distinction).
- GPA: 9.30/10

PUBLICATIONS

1. Homomorphisms between pure mapping class groups.
Advances in Mathematics (2025).
2. Non-planar ends are continuously unforgettable.
Joint with J. Aramayona, R. Skipper, J. Tao, N. G. Vlamis and X. Wu.
International Mathematics Research Notices (2025).
3. Braided multitwists.
Algebraic and Geometric Topology (2025).
4. Finite rigid sets of the non-separating curve complex.
Forum Mathematicum (2022).
5. Matching arc complexes: Connectedness and hyperbolicity.
Joint with J. Aramayona and A. Fernández.
Expositiones Mathematicae (2021).
6. Towards the Automatic and Schedule-Aware Alerting of Internetwork Time Series.
Joint with D. Perdices, J. García-Dorado, J. Ramos, J. Aracil.
IEEE Access (2021).

PREPRINTS

1. Holomorphic maps between moduli spaces II.
Joint with J. Souto.
In arXiv:2412.01257 (2024).

RESEARCH STAYS

Institut de Recherche Mathématique de Rennes <i>Collaboration with prof. Juan Souto</i>	Rennes, France <i>April - June 2024</i>
Institut Henri Poincaré <i>Scientific Program:</i> <i>Groups acting on Fractals, Hyperbolicity and Self-Similarity</i>	Paris, France <i>April - June 2022</i>

AWARDS, FELLOWSHIPS, & GRANTS

Provost Society of Science Fellowship <i>University of Notre Dame du Lac.</i>	2025 - 2028
FPI predoctoral contract <i>Spanish Ministry of Science and Innovation.</i>	2021 - 2025
JAE Intro SOMdM Grant <i>Research grant awarded by Spanish National Research Council.</i>	2020 - 2021
Excellence scholarships. <i>Awarded yearly by the Community of Madrid.</i>	2015 - 2020

INVITED TALKS, SEMINARS & COLLOQUIA

University of Notre Dame <i>Rigidity results for the mapping class group.</i>	September 23, 2025
Instituto de Ciencias Matemáticas <i>Resultados de rigidez del grupo modular.</i>	May 22, 2025
Universidad Nacional Autónoma de México <i>Braided elements & homomorphisms in the mapping class group.</i>	October 28, 2024
Universidad Complutense de Madrid <i>Homomorphisms between mapping class groups.</i>	September 23, 2024
Internationales Wissenschaftsforum Heidelberg <i>Transverse measures to infinite type laminations.</i>	July 8, 2024
Institut de Recherche Mathématique de Rennes <i>Holomorphic rigidity of moduli space.</i>	June 24, 2024
Institut de Recherche Mathématique de Rennes <i>Mapping class groups, braided elements and homomorphisms.</i>	June 19, 2024

Instituto de Ciencias Matemáticas	December 5, 2023
<i>Braided multitwists in the mapping class group.</i>	
Universidad de León	February 9, 2023
<i>Finite rigidity of non-separating curve complexes.</i>	
Universidad Autónoma de Madrid	December 14, 2022
<i>Introduction to geometric group theory.</i>	
Instituto de Ciencias Matemáticas	December 2, 2022
<i>The symplectic representation of the mapping class group.</i>	
Institut Henri Poincaré	June 2022
<i>Finite rigid sets of the non-separating curve complex.</i>	
Instituto de Ciencias Matemáticas	May 24, 2022
<i>The curve complex.</i>	
Instituto de Ciencias Matemáticas	December 9, 2021
<i>On the hyperbolicity of arc complexes and some of their relatives.</i>	

TEACHING EXPERIENCE

Instructor for Calculus B	Spring Term 25/26
<i>University of Notre Dame du Lac.</i>	
Teaching Assistant for Mathematical Analysis	1st Term 24/25
<i>Mathematics, Universidad Autónoma de Madrid.</i>	
Teaching Assistant for Linear Algebra	1st Term 23/24
<i>Data Science and Engineering, Universidad Autónoma de Madrid.</i>	
Teaching Assistant for Mathematics	1st Term 22/23
<i>Environmental Science, Universidad Autónoma de Madrid.</i>	
Teacher in the ‘Pequeño instituto matemático’ (PIM)	2022 - 2024
<i>PIM is a weekly activity organized by the ICMAT where high-school students discuss math Olympiad style problems.</i>	

CONFERENCE ORGANIZATION

Geometric Group Theory and Low-dimensional Topology	May 2022
<i>Co-organizar of Graduate School at Instituto de Ciencias Matemáticas.</i>	

WORKSHOP & CONFERENCE PARTICIPATION

A conference on Geometry, Topology and Dynamics of Infinite-type surfaces	June 2025
<i>Casa Matemática Oaxaca.</i>	<i>Oaxaca, Mexico</i>
Young Geometric Group Theory XIII	April 2025
<i>University of Copenhagen.</i>	<i>Copenhagen, Denmark</i>

Group, Topology and Applications VI <i>University of the Basque Country.</i>	April 2025 <i>Bilbao, Spain</i>
Red temática de geometría y física <i>Instituto de Ciencias Matemáticas.</i>	November 2024 <i>Madrid, Spain</i>
Groups in Madrid <i>Instituto de Ciencias Matemáticas.</i>	October 2024 <i>Madrid, Spain</i>
Geometry and dynamics of surfaces beyond finite type <i>Heidelberg University.</i>	July 2024 <i>Heidelberg, Germany</i>
Young Geometric Group Theory XII <i>University of Bristol.</i>	April 2024 <i>Bristol, UK</i>
Groups in Madrid <i>Instituto de Ciencias Matemáticas.</i>	October 2023 <i>Madrid, Spain</i>
Group Actions and Low-dimensional Topology <i>Organized by Instituto de Ciencias Matemáticas.</i>	July 2023 <i>Barco de Ávila, Spain</i>
Groups and Dynamics in Geometry <i>Organized by ETH Zürich.</i>	June 2023 <i>Ascona, Switzerland</i>
Young Geometric Group Theory XI <i>University of Münster.</i>	February 2023 <i>Münster, Germany</i>
Young researchers congress of the Real Sociedad Matemática Española <i>Universidad de León.</i>	February 2023 <i>León, Spain</i>
Groups, Topology and Applications IV <i>University of the Basque Country.</i>	February 2023 <i>Bilbao, Spain</i>
Groups in Madrid <i>Instituto de Ciencias Matemáticas.</i>	October 2022 <i>Madrid, Spain</i>
Groups acting on Fractals <i>Centre International de Rencontres Mathématiques.</i>	April 2022 <i>Luminy, France</i>
Biannual meeting of the Real Sociedad Matemática Española <i>University of Castilla-La Mancha</i>	January 2022 <i>Ciudad Real, Spain</i>
Groups in Madrid <i>Instituto de Ciencias Matemáticas.</i>	November 2021 <i>Madrid, Spain</i>