Rubén Izquierdo-López, PhD student
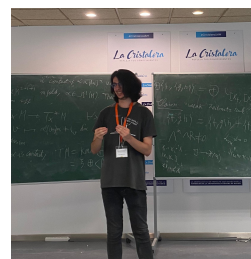
✉ ruben.izquierdolop@gmail.com   📞 On request   🌐 My personal web-page

Last updated: May 12, 2025

Teaching experience

2024-now ▮ **Professor** at UNIR (Universidad Internacional de la Rioja) teaching

- Dynamical Systems (2024–2025) for 4th year students of Computational Mathematics
- Computational Logic (2024–2025) for 1st year students of Computational Mathematics.
- Complex Variables (2024–2025) for 3rd year students of Physics.
- Numerical Analysis (2024–2025) for 2nd year students of Physics.
- Differential Equations (2024–2025) for 2nd year students of Physics.

2022-2023 ▮ **Teaching assistant** in "Matemáticas Básicas" at Universidad Complutense de Madrid.

2020-2022 ▮ **Support Teacher** at Savannah SLC in Torrejón de Ardoz.

Research experience

2023-2024 ▮ **Severo Ochoa contract for Master students** in CSIC (Instituto de Ciencias Matemáticas) supervised by Prof. Manuel de León.

2023 ▮ **JAE Intro research grant** supervised by Prof. Manuel de León.

Education

2024– *now* ▮ I am currently a PhD student in Mathematics under the supervision of prof. Manuel de León.

2023–2024 ▮ **Master's degree in Advanced Mathematics, (average of 9.77/10)** in Universidad Complutense de Madrid.
Thesis title: *Coisotropic reduction in Multisymplectic Geometry*. Advisor: *Manuel de León Rodríguez*. **Grade**: 10.

2019–2023 ▮ **Bachelor's degree in Mathematics, (average of 9.44/10)** in Universidad Complutense de Madrid. I was awarded with "premio excelencia UCM", for one of the best academic records in Mathematics.
Thesis title: *Simplicial and Cellular Homology*. **Advisor**: *Manuel Alonso Morón*. **Grade**: 9.7/10.

Languages

▮ **Spanish:** Native

▮ **English:** C1, 100/120 on TOEFL.

Grants

- **Severo Ochoa grant for Master students** in academic year 2023-2024.
- **"Excellence grant" of Comunidad de Madrid** in academic years 2020-2021, 2021-2022, 2022-2023.
- **JAE Intro research grant**.

Schools and conferences

January 2025	**XIX Young Researchers Workshop in Geometry Dynamics and Field Theory** in University of Verona, Verona, Italy. Gave a talk on "Graded structures of classical field theories".
	VII Congreso de Jóvenes Investigadores de la RSME in Universidad del País Vasco, Bilbao, Spain. Gave a talk on "Graded brackets in classical field theories".
November 2024	**New Advances in Contact and Symplectic Hamiltonian Dynamics** in Great Bay University, Dongguan, Guangdong, China. Gave a talk on "Poisson and Dirac structures in Classical Field Theories".
September 2024	**Workshop de Jóvenes Investigadores** in UCM, Madrid. Gave a talk on "Coisotropic reduction in Classical Field Theories".
August 2024	**Workshop on Geometric Aspects of Material Modelling** in UNED, Madrid. Gave a talk on "The Multisympelctic framework of Field Theories".
June 2024	**XVI International ICMAT Summer School on Geometry, Dynamics and Field theory** in Miraflores de la Sierra, Madrid.
	The Geometry of Field Theories in Real Colegio de Santa Cristina, Madrid. Gave a short talk on "Coisotropic reduction in Multisymplectic Geometry".
February 2024	**XVIII International Young researchers Workshop in Geometry, Dynamics and Field Theory** in Warsaw University. Gave a short talk on "Coisotropic reduction in different phase spaces".
January 2024	**XXV Winter Meeting on Geometry, Dynamics and Field Theory** in Universidad de Zaragoza.
December 2023	**de León fest** in ICMAT.
November 2023	**BYMAT** in ICMAT. Gave a short talk on "Coisotropic reduction in symplectic, cosymplectic, contact and cocontact geometry".
July 2023	**JAE summer School** in ICMAT.

Talks and seminars

May 2025	**Coloquio Junior de matemáticas**, ICMAT, Madrid. Gave a talk on "Natural operations in differential geometry".
February 2025	**Q-math seminar**, Universidad Carlos III de Madrid. Gave a talk on ""Graded Poisson brackets in classical field theories".
January 2025	**XIX Young Researchers Workshop in Geometry Dynamics and Field Theory** in University of Verona, Verona, Italy. Gave a talk on "Graded structures of classical field theories".
	VII Congreso de Jóvenes Investigadores de la RSME in Universidad del País Vasco, Bilbao, Spain. Gave a talk on "Graded brackets in classical field theories".
November 2024	**New Advances in Contact and Symplectic Hamiltonian Dynamics** in Great Bay University, Dongguan, Guangdong, China. Gave a talk on "Poisson and Dirac structures in Classical Field Theories".

Talks and seminars (continued)

September 2024	🔖 **Workshop de Jóvenes Investigadores** in UCM, Madrid. Gave a talk on "Coisotropic reduction in Classical Field Theories".
	🔖 **Seminario de doctorandos** in UCM, Madrid. Gave a talk on "Geometría multisimpléctica, el marco para teoría clásicas de campos".
August 2024	🔖 **Workshop on Geometric Aspects of Material Modelling** in UNED, Madrid. Gave a talk on "The Multisympelctic framework of Field Theories".
June 2024	🔖 **Gamma Seminar**, online. Gave a talk on "Coisotropic reduction in Multisymplectic Geometry".
	🔖 **The Geometry of Field Theories** in Real Colegio de Santa Cristina, Madrid. Gave a short talk on "Coisotropic reduction in Multisymplectic Geometry".
February 2024	🔖 **XVIII International Young researchers Workshop in Geometry, Dynamics and Field Theory** in Warsaw University. Gave a short talk on "Coisotropic reduction in different phase spaces".
November 2023	🔖 **BYMAT** in ICMAT. Gave a short talk on "Coisotropic reduction in symplectic, cosymplectic, contact and cocontact geometry".

Volunteering

July 2024	🔖 **Assistant in ECM (European Congress of Mathematics)** at Universidad de Sevilla.
April 2023	🔖 **Assistant in "Concurso de Primavera"** at Universidad Complutense de Madrid.

Research Publications

Journal Articles

1 M. de León and R. Izquierdo-López, "Graded poisson and graded dirac structures," *Journal of Mathematical Physics*, vol. 66, no. 2, p. 022 901, 2025, ISSN: 0022-2488. 🔗 DOI: 10.1063/5.0243128.

2 M. de León and R. Izquierdo-López, "A review on coisotropic reduction in symplectic, cosymplectic, contact and co-contact hamiltonian systems," *Journal of Physics A: Mathematical and Theoretical*, vol. 57, no. 16, p. 163 001, 2024. 🔗 DOI: 10.1088/1751-8121/ad37b2.

3 M. de León and R. Izquierdo-López, "Coisotropic reduction in multisymplectic geometry," *Geometric Mechanics*, vol. 01, no. 03, pp. 209–244, 2024. 🔗 DOI: 10.1142/S2972458924500096.