JUAN MANUEL LORENZO NAVEIRO

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EMPLOYMENT

• FPI Fellow of the Spanish Ministry of Science and Innovation, Department of Mathematics, Universidade de Santiago de Compostela (September 2021 – Present).
• Research Technician, Department of Mathematics, Universidade de Santiago de Compostela (January – August 2021).

EDUCATION

• PhD in Mathematics (ongoing), Universidade de Santiago de Compostela (September 2021 – Present).
• Master's degree in Mathematics, Universidade de Santiago de Compostela (Average grade: 10/10) (September 2020 – July 2021).
• Graduate in Mathematics, Universidade de Santiago de Compostela (Average grade: 9.96/10) (September 2016 – July 2020).

RESEARCH INTERESTS

• Submanifold geometry on manifolds with symmetry: Lie groups, isometric actions on homogeneous and symmetric spaces, polar actions, homogeneous foliations, isoparametric hypersurfaces, totally geodesic and minimal submanifolds.

PREPRINTS

• J. M. Lorenzo-Naveiro, A. Rodríguez-Vázquez: Totally geodesic submanifolds of the homogeneous nearly Kähler 6-manifolds and their G_2-cones, `arXiv:2411.11261`.
• J. C. Díaz-Ramos, J. M. Lorenzo-Naveiro: Codimension two polar homogeneous foliations on symmetric spaces of noncompact type, `arXiv:2302.08339`.
• J. M. Lorenzo-Naveiro, I. Solonenko: Sections of polar actions, `arXiv:2111.05280`.

WORK IN PROGRESS

• J. M. Figueroa-O'Farrill, J. M. Lorenzo-Naveiro: Coisotropy-one homogeneous spacetimes I: (3,2) kinematical Lie algebras.

TALKS AT CONFERENCES AND WORKSHOPS

• Meeting of young researchers of the Spanish Network of Geometric Analysis, Universidade de Santiago de Compostela (Spain), 28 – 29 November 2024. *Totally geodesic submanifolds of nearly Kähler and G_2-manifolds.*
• Symmetry and Shape, Universidade de Santiago de Compostela (Spain), 23 – 27 September 2024. *Nearly Kähler geometry and totally geodesic submanifolds*.
• Geometry day, Universidade de Santiago de Compostela, 11 April 2024. *Totally geodesic submanifolds in homegeneous six-dimensional nearly Kähler spaces.*
• Differential Geometry and its Applications, University of Hradec Králové, 17 – 22 July 2022. *Polar homogeneous foliations on symmetric spaces of noncompact type.*
• Workshop on manifolds with symmetries, Universität Stuttgart, 28 – 31 March 2022. *Polar actions on some noncompact symmetric spaces.*
• Symmetry and Shape, Universidade de Santiago de Compostela (Spain), 15 – 18 October 2021. *Polar homogeneous foliations on $\mathsf{SL}(3,\mathbb{R})/\mathsf{SO}(3)$.*

POSTERS

• Symmetry and Shape, Universidade de Santiago de Compostela (Spain), 13 – 16 October 2022, *Codimension two polar homogeneous foliations on noncompact symmetric spaces*.

TALKS AT SEMINARS

• Seminar of the Institute of Geometry and Topology, Universität Stuttgart (Germany), 14 November 2024, *Totally geodesic submanifolds of nearly Kähler and G_2-manifolds.*
• Pure mathematics seminar, University of Queensland (Australia), 19 July 2024, *Polar actions on symmetric spaces of noncompact type.*
• Differential Geometry seminar, University of Adelaide (Australia), 31 May 2024, *Nearly Kähler geometry and totally geodesic submanifolds.*
• Geometry seminar, KU Leuven (Belgium), 16 February 2024, *Totally geodesic submanifolds of the homogeneous nearly Kähler 6-manifolds.*
• Geometry seminar, KU Leuven (Belgium), 19 May 2023, *Polar homogeneous foliations on noncompact symmetric spaces.*
• Symmetric spaces seminar, online seminar, 2 February 2022, *Symmetric spaces of noncompact type I: The Cartan and Iwasawa decompositions.*
• Symmetric spaces seminar, online seminar, 1 December 2021, *Introduction to polar actions*.
• Introduction to research seminar, Universidade de Santiago de Compostela (Spain), 24 February 2021, *The geometry of the Heisenberg group*.

RESEARCH STAYS

• Universität Stuttgart (Germany), 11/11/2024 – 15/11/2024 (1 week).
• University of Queensland (Australia), 29/04/2024 – 26/07/2024 (3 months).
• University of Adelaide (Australia), 28/05/2024 – 31/05/2024 (1 week).
• KU Leuven (Belgium), 29/01/2024 – 16/02/2024 (3 weeks).
• University of Edinburgh (United Kingdom), 19/06/2023 – 28/07/2023 (6 weeks).
• KU Leuven (Belgium), 01/05/2023 – 26/05/2023 (1 month).
• Instituto de Ciencias Matemáticas – ICMAT-CSIC (Spain), 01/09/2020 – 03/11/2020 (2 months).

GRANTS AND AWARDS

• Grant of the National Programme for the Formation of Research Personal (FPI). Ministry of science and innovation, September 2021 – Present.
• Severo Ochoa – Introduction to Research Grant. ICMAT, CSIC (Spain), September 2020 – November 2020.
• Graduation Award. Xunta de Galicia (Spain), 2020.
• Extraordinary graduation award. Universidade de Santiago de Compostela (Spain), 2020.
• Collaboration grant. IMAT, Universidade de Santiago de Compostela (Spain), year 2019–2020.
• Academic excellence award. Xunta de Galicia, year 2018 – 2019.
• Academic excellence award. Xunta de Galicia, year 2017 – 2018.

ADVISORSHIP OF STUDENTS

• Undergraduate thesis of Diego Asín de Alcalá, titled *Clifford algebras and spin groups*. Universidade de Santiago de Compostela, ongoing.
• Undergraduate thesis of Francisco Morales Vidal, titled *Vector fields and distributions in differential geometry*. Universidade de Santiago de Compostela, ongoing.
• Undergraduate thesis of Marcos Montaña Fernández, titled *Topological groups*. Universidade de Santiago de Compostela, 17/07/2024.
• Undergraduate thesis of Tomás Rodríguez Vázquez, titled *Global theory of curves*. Universidade de Santiago de Compostela, 18/07/2023.

SERVICE

- Referee for the journal *Mediterranean Journal of Mathematics*.

OTHER PUBLICATIONS

- J. M. Lorenzo-Naveiro, *Polar homogeneous foliations on symmetric spaces*, in *Publicaciones del Departamento de Geometría y Topología* **149**, Universidade de Santiago de Compostela (2022) (This is my M. Sc. thesis).
- J. M. Lorenzo-Naveiro, *The geometry of the Heisenberg group*, in *As matemáticas do veciño, Actas do Seminario de Iniciación á Investigación*, Institute of Mathematics, Universidade de Santiago de Compostela (2021), ISSN: 2171-6536 (Expository article on sub-Riemannian geometry).

ATTENDANCE TO COURSES

- *Differential topology*, Universidade de Santiago de Comostela, February – May 2024.
- *The Ambrose-Singer Theorem*, Universidade de Santiago de Compostela, October – November 2021.
- *Representation theory of compact groups*, Universidade de Santiago de Compostela, September – December 2020.
- *Knots and braids*, ICMAT, September 2020.
- *Homotopy of embedding spaces*, ICMAT, September 2020.
- *Fiber bundles and connections*, Universidade de Santiago de Compostela, February – May 2020.
- *International Masterclasses – hands on particle physics*, Universidade de Santiago de Compostela, March 2016.

ORGANIZED EVENTS

- Co-organizer of the conference *Matemáticas: habelas, hainas! 2023*, Universidade de Santiago de Compostela, 23/11/2023 (conference for the dissemination of Mathematics).
- Co-organizer of the PhD students seminar *Seminario de Iniciación á Investigación* and editor of the proceedings, Universidade de Santiago de Compostela, September 2023 – Present.

TEACHING EXPERIENCE

- *Topology of surfaces*. Degree in Mathematics (3rd year), Universidade de Santiago de Compostela, 2023/2024.
- *General topology*. Degree in Mathematics (3rd year), Universidade de Santiago de Compostela, 2022/2023, 2023/2024.
- *Global theory of surfaces*. Degree in Mathematics (3rd year), Universidade de Santiago de Compostela, 2021/2022.
- *Mathematics and Statistics II*. Degree in Pharmacy (1st year), Universidade de Santiago de Compostela, 2021/2022, 2022/2023, 2023/2024.
- *Mathematics*. Degree in Biotechnology (1st year), Universidade de Santiago de Compostela, 2021/2022, 2022/2023, 2023/2024.

LANGUAGES

- Native languages: Spanish and Galician.
- Fluent in English (Cambridge CAE, Level C2).
- Basic skills in French (DELF A2).