

Jose L. Lado

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CV date: September 12th 2026

Employment and Education

2023–	Assistant Professor level 2 (fixed-term), Department of Applied Physics, Aalto University, Finland
2019–2023	Assistant Professor level 1, Department of Applied Physics, Aalto University, Finland
2017–2019	ETH Postdoctoral Fellow, Institute for Theoretical Physics, ETH Zurich, Switzerland
2013–2017	Marie Curie-Skłodowska Early Stage Researcher, then Research Fellow, International Iberian Nanotechnology Laboratory, Braga, Portugal
2013–2016	Ph.D. in Material Science, University of Santiago de Compostela, Spain. Thesis: “Topological electronic phases in graphene” (supervisor: Joaquín Fernández-Rossier)

Awards and Honours

2025–2030	European Research Council (ERC) Consolidator Grant (ULTRATWISTROICS)
2024	2DM Young Scientist Award, awarded by IOP
2023	Early Career Theory Award , Royal Spanish Physics Society – BBVA Foundation
2023	EPS Early Career Award , European Physical Society
2021	Early Career Award (runner-up) , DPG & IOP through New Journal of Physics
2020–2025	Academy of Finland Research Fellow
2016	Best Ph.D. Thesis in Theoretical Condensed Matter Physics , Spanish Royal Society of Physics

Selected Funding

4.39 M€ of external competitive funding as principal investigator since 2019. Every amount is my own share, not the total volume of the project.

2025–2030	2 000 k€ — ERC Consolidator Grant ULTRATWISTROICS , European Research Council (<i>sole PI</i>)
2020–2025	1 010 k€ — Academy Research Fellow grant , Research Council of Finland (<i>sole PI</i>)
2026–2028	434 k€ — Centre of Excellence in Quantum Materials QMAT , Research Council of Finland (<i>one of 8 PIs, vice-director</i>)
2025–2029	407 k€ — Atom-vdW project grant , Research Council of Finland (<i>co-PI</i>)
2021–2025	444 k€ — HEAVYTWIST (<i>sole PI</i>) and QUCOMAT (<i>co-PI</i>), Jane and Aatos Erkkö Foundation

Supervision

Currently supervising 7 doctoral researchers and 2 postdoctoral researchers and 1 research fellow. Since 2019 I have graduated 6 doctoral researchers (a seventh thesis is submitted, defence October 2026) and supervised 5 postdoctoral researchers, 11 completed M.Sc. theses and 13 completed B.Sc. theses. A postdoc I mentored secured independent competitive funding (330 k€ in 2022 and 1 M€ in 2025 from the Research Council of Finland), and a B.Sc. student I supervised was awarded the best physics B.Sc. thesis worldwide in 2023.

Research Output

152 peer-reviewed publications (plus 18 preprints and 7 invited perspective articles), including 20 Physical Review Letters, 1 Physical Review X, 3 Nature Nanotechnology, 1 Nature, 1 Nature Physics, 1 Nature Materials, 12 Nano Letters, 5 Advanced Materials, 3 Nature Communications, 2 Science and 2 Science Advances. Last author on 55 manuscripts since 2019. Cited 7288 times, h-index 39 ([Google Scholar](#), September 2026). 62 invited talks since 2014, 59 of them since 2019 ([full list](#)). Main developer of the open-source packages [pyqula](#), [dmrgpy](#) and [Quantum Lattice](#).

Selected publications

Tensor network method for real-space topology in quasicrystal Chern mosaics

Tiago V. C. Antão, Yitao Sun, Adolfo O. Fumega, [Jose L. Lado](#) — [Phys. Rev. Lett. 136, 156601 \(2026\)](#)

Observation of non-Hermitian topology from optical loss modulation

Amin Hashemi, Elizabeth Louis Pereira, Hongwei Li, [Jose L. Lado](#), Andrea Blanco-Redondo — [Nature Materials 24, 1393-1399 \(2025\)](#)

Hamiltonian learning of triplon excitations in an artificial nanoscale molecular quantum magnet

Rouven Koch, Robert Drost, Peter Liljeroth, [Jose L. Lado](#) — [Nano Letters 25, 36, 13435-13440 \(2025\)](#)

Nature of the unconventional heavy fermion Kondo state in monolayer CeSiI

Adolfo O. Fumega, [Jose L. Lado](#) — [Nano Letters 24, 14, 4272-4278 \(2024\)](#)

Topological Spin Excitations in Non-Hermitian Spin Chains with a Generalized Kernel Polynomial Algorithm

Guangze Chen, Fei Song, [Jose L. Lado](#) — [Phys. Rev. Lett. 130, 100401 \(2023\)](#)

Moiré-Enabled Topological Superconductivity

Shawulien Kezilebieke, Viliam Vaňo, Md N. Huda, Markus Aapro, Somesh Chandra Ganguli, Peter Liljeroth, [Jose L. Lado](#) — [Nano Lett. 2022, 22, 1, 328-333](#)

Artificial heavy fermions in a van der Waals heterostructure

Viliam Vaňo, Mohammad Amini, Somesh Chandra Ganguli, Guangze Chen, [Jose L. Lado](#), Shawulien Kezilebieke, Peter Liljeroth — [Nature 599, 582-586 \(2021\)](#)

Emulating heavy fermions in twisted trilayer graphene

Aline Ramires, [Jose L. Lado](#) — [Phys. Rev. Lett. 127, 026401 \(2021\)](#)

Electrically tunable gauge fields in tiny-angle twisted bilayer graphene

A. Ramires, [J. L. Lado](#) — [Phys. Rev. Lett. 121, 146801 \(2018\)](#)

Probing magnetism in 2D van der Waals crystalline insulators via electron tunneling

Dahlia R. Klein, David MacNeill, [Jose L. Lado](#), David Soriano, Efrén Navarro-Moratalla, Kenji Watanabe, Takashi Taniguchi, Soham Manni, Paul Canfield, Joaquín Fernández-Rossier, Pablo Jarillo-Herrero — [Science 360.6394 \(2018\): 1218-1222](#)

Full list: www.joselado.org or [ORCID](#).

Teaching and Service

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| Teaching | At Aalto University: responsible teacher, Advanced Quantum Materials (M.Sc., 2025–). Co-responsible teacher, Advanced Computational Methods in Physics (M.Sc., 2024–). Responsible teacher, Solid State Physics (M.Sc., 2020–2024). Main lecturer of the 31st Jyväskylä Summer School (2022). Co-lecturer at doctoral schools in France (2023), India (2023) and Portugal (2025). 27 credits of pedagogical training. |
| Service | Elected member, CMD board, European Physical Society (2023–). Early Career Advisor, Physical Review Letters (2025–). Management committee member, COST Action CA21144 (2022–). CECAM Node director, Finland (2020–2024). Quantum Materials work package coordinator, Finnish Quantum Flagship. Leader, ResQ Quantum Materials, InstituteQ. Vice-director, Centre of Excellence in Quantum Materials QMAT . Co-Chair, Physics Days 2026. |
| Review | Peer reviewer of 143 manuscripts for Science, Nature and Nature-family journals, Physical Review X/Letters/Research and 2D Materials. Proposal reviewer for the ERC, the U.S. Department of Energy and seven national research councils. External reviewer or opponent in 13 Ph.D. dissertations since 2020. |