Carlos Payá – Curriculum Vitae

Full Name	Carlos Payá Herrero	**Email**	carlos.paya@csic.es
Birthdate	20th January 1999	**Website**	carlosp24.github.io
Birthplace	Madrid, Spain	**ORCID**	0000-0001-5709-2290
Nationality	Spanish	**Github**	Carlosp24

Personal Profile

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Education

2023-ongoing   PhD in Condensed Matter Physics - Universidad Autónoma de Madrid, Madrid, Spain

Tentative completion date	February 2027
Topic	*Topological superconductors with hybrid materials: full-shell Majorana nanowires*
Supervisors	Elsa Prada and Ramón Aguado

2021-2022   Master in Physics of Condensed Matter - Universidad Autónoma de Madrid, Madrid, Spain

Grade	9.45/10
Master's Thesis	*Topological phase and Majorana zero modes in full-shell nanowires*
Supervisor	Elsa Prada

2017-2021   Bachelor in Physics - Universidad Autónoma de Madrid, Madrid, Spain

Grade	8.44/10
Bachelor's Thesis	*Josephson junctions based on full-shell Majorana nanowires*
Supervisor	Elsa Prada

Employment History

March 2023 - Present   Instituto de Ciencia de Materiales de Madrid (ICMM), CSIC, Madrid, Spain
PhD Candidate, FPI grant

Theory of Quantum Materials and Solid State Quantum Technologies group.

Nov 2021 - Sep 2022   Instituto de Ciencia de Materiales de Madrid (ICMM), CSIC, Madrid, Spain
Research Assistant

Theory of Quantum Materials and Solid State Quantum Technologies group.

Publications

Preprints

[2]   **C. Payá**, S. D. Escribano, A. Vezzosi, F. Peñaranda, R. Aguado, P. San-Jose, and E. Prada. *Phenomenology of Majorana zero modes in full-shell hybrid nanowires*. Dec. 2023. arXiv: 2312.11613 [cond-mat.mes-hall]. URL: https://arxiv.org/abs/2312.11613.

Journals

[1]   P. San-Jose, **C. Payá**, C. M. Marcus, S. Vaitiekenas, and E. Prada. "Theory of Caroli–de Gennes–Matricon analogs in full-shell hybrid nanowires". In: *Phys. Rev. B* 107 (15 Apr. 2023), p. 155423. DOI: 10.1103/PhysRevB.107.155423. URL: https://link.aps.org/doi/10.1103/PhysRevB.107.155423.

- **Programming Languages**

  Ruby - MRI 1.8.7, 1.9.2
  ASP.NET, C#, VB.NET
  PHP
  Java/Scala

- **Web Development**

  HTML5, CSS3/SASS, JavaScript/CoffeeScript/jQuery
  Ruby on Rails v3.1
  Test:Unit, RSpec, Cucumber, Selenium - automated testing frameworks
  Apache/Nginx Web Servers

- **Miscellaneous**

  Microsoft SQL Server 2000/2005 - database architecture and administration
  Transact-SQL - data definition and manipulation
  SQL Profiler - performance tuning and debugging
  MySQL Server
  CVS, DARCS, git - source version control

Interests

- **Badminton, Tennis, Running, Cycling, Sailing**
- **Travelling**
- **Creative Writing**
- **Photography**
- **Car Mechanics**

Referees

Name	Bill Lumbergh	**Name**	Michael "Big Mike" Tucker
Company	Initech Inc.	**Company**	Burbank Buy More
Position	Vice President	**Position**	Store Manager
Contact	bill@initech.com	**Contact**	mike@buymore.com