

## Experience

- Nov 2023 – **Senior researcher**, *Fujitsu Research of Europe*, Quantum Applications Research, Madrid, Spain  
Ongoing
  - Researcher and developer of quantum applications for actionable solutions to real-world challenges with industrial engagement.
- Mar 2022 – **Postdoctoral researcher**, *University of Barcelona*, Institute of Cosmos Sciences and Department of  
Nov 2023 Quantum Physics and Astrophysics, Barcelona, Spain
  - Founder and leader of a collaboration between the University of Barcelona and the Barcelona Supercomputing Center which designs algorithms for the implementation of complex nuclear-structure calculations in a quantum computer
  - Assistance in teaching duties in *Calculus* and *Computational Physics*: tutorials, lab sessions and marking
  - Supervision and mentoring of four young researchers for the bachelor's and master's thesis dissertations
  - Collaborator in the Quantum Spain project developing quantum simulation scripts tailored for nuclear structure
  - Margarita Salas fellowship awarded under NextGenerationEU funding
- Mar 2020 – **Postdoctoral researcher**, *University of North Carolina at Chapel Hill*, Department of Physics and  
Mar 2022 Astronomy, United States of America
  - My main achievement was the development of statistical, machine-learning like, algorithms to extract the relevant degrees of freedom of a many-body system to optimize and guide the intensive calculations in supercomputers
  - Part of the research team of the grant *Nuclear Theory with Applications to Astrophysics and Particle Physics*, DE-FG02-97ER41019 from the Department of Energy (USA), Principal Investigator: Prof. Jonathan Engel
- Oct 2016 – **PhD student**, *University of York*, Department of Physics, United Kingdom  
Mar 2020
  - I successfully learnt, studied, and defended my PhD thesis on the structure of atomic nuclei
  - Assistance in teaching duties in a Master's course *Statistical Methods in Data Analysis*: lab sessions and problem drafting in Matlab
  - Part of the research team of the grant *Nuclear Physics Theory and Nuclear Physics Consolidated Grant*, STFC No. ST/M006433/1 and No. ST/p003885/1, Principal Investigator: Prof. Jacek Dobaczewski
- Apr 2016 – **Data-scientist intern**, *BBVA*, Madrid, Spain  
Sep 2016 Shareholder relations

## Education

- 2014-2015 **Máster Universitario en Física y Matemáticas (FISYMAT)**, *Universidad de Granada, Spain*  
2010-2014 **BSc in Physics**, *Universidad de Sevilla, Spain*

## Skill matrix

Utilities	Git, Linux, Bash, LaTeX, Slurm, Jupyter, CLI, CI/CD, Microsoft Office
Programming	Python, Fortran, Mathematica, Matlab/Octave, OpenMP, MPI
Languages	English (Proficient), Spanish (Native)
Soft	Public speaking, outreach dissemination, grant-application writing, scientific-article publication, project management

## Specialized professional training

- 2019 **Learning from data: Bayesian methods and machine learning**, *Training in Advanced Low Energy Nuclear Theory (TALENT) course*, University of York, UK

## Awards

- 2019 **Nuclear Physics Early Career Researcher Prize**, “For a promising early career scientist who has made an outstanding contribution to nuclear physics.”, Institute of Physics, United Kingdom, [Link to website](#)

## Supervision and mentoring

- 2022-2023 **Quantum computing simulation of  ${}^6\text{Li}$  with the coupled cluster method**, *Miquel Codina Carrasco*, BSc dissertation, Grade: 9.4 out of 10  
University of Barcelona
- 2022-2023 **Neutrinoless double beta decay of calcium isotopes**, *Arnau García Mesa*, BSc dissertation, Grade: 9.9 out of 10  
University of Barcelona
- 2022-2023 **Study of  ${}^6\text{Li}$  with the rodeo algorithm for a quantum computer**, *Alèxia Martorell Granollers*, MSc dissertation, Grade: 9.3 out of 10  
University of Barcelona
- 2022-2023 **Shape coexistence and superdeformation in  ${}^{28}\text{Si}$** , *Dorian Grzegorz Frycz*, MSc dissertation, Grade: 10 out of 10  
University of Barcelona
- 2023 **External examiner**, *I have evaluated and assessed the reports of MSc and PhD students as an external examiner for the quantum simulation of the Lipkin model*, University of Oslo