Mateo Rodríguez

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Education

University of Oviedo 2020-2025

Bachelor of Science - Physics (240 ECTS)
Bachelor Thesis: *Connecting theory and experiment: study of molecules on surfaces trough STM and simulations.*

Vcq Summer School: Interfacing Gravity and Quantum Physics 09/2024

25.5h course, organized by Vienna Center for Quantum Science and Technology. Certificate Link

Dutch Summer School of Theoretical Physics 08/2024

1.5 ECTS course on Theoretical Physics.
Utrecht Summer School. Certificate Link

xii Gefenol Summer School on Statistical Physics of Complex Systems 07/2024

International 60h course on Complex Systems, applied Artificial Intelligence (AI) and Data Modeling. URJC Madrid. Certificate Link

Saturdays AI Asturias 02-06/2024

160h AI course with Python in which a project with social impact is developed. Certificate Link

Technical Skills

Python
Fortran

Computational Physics
Molecular Dynamics

Data Science/Analysis
ML/ AI

Languages

Spanish

Native

English

Fluent

Work Experience/Projects

Research Internship: Surface Science 2024-2025

Working on Surface & Molecular Physics at SumoLab, a surface science research group which is part of the Nanomaterials and Nanotechnology Research Center (CINN). Main experience: operating a Low Temperature Scanning Tunneling Microscope (LT STM) under conditions of low temperature ($T \approx 4K$) and ultra-high vacuum ($P \sim 10^{-11} mbar$).

Research Internship: Molecular & Computational Physics 02-05/2025

Project IFF-01 at the Fundamental Physics Institute (IFF), thanks to a JAE Intro ICU **competitive grant** funded by the Spanish National Research Council (CSIC). Molecular Dynamics (MD) with Fortran and LAMMPS. Contribution to the open software MD package LAMMPS with a new intermolecular force field lj/pirani.

Research Internship: Data Science 09-12/2024

Project SV-24-GIJON-1-15 with a **competitive grant** funded by IUTA. We created a Machine Learning (ML) model able to predict faults and performace of a marine diesel engine. Public talk's presentation here.

Applications of ML to the Study of Brain Metastases 04-06/2024

Developed inside the context of Saturdays AI Asturias. Github link Code link

About Myself

I am interested in science, I like writing and I love football. Japanese art and culture fascinate me. I come from a family in which hard work and empathy are critical values.

Certifications

Oxford Junior Programmes 07/2018

45 Hour English Course, Edinburgh. Certificate

Cambridge First Certificate 2017

Council of Europe Level B2. Certificate