



Mateo Rodríguez

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EXPERIENCE

MEMBER OF THE TECHNICAL COMMITTEE OF FyT 2025 CONGRESS 07/2025

I had the pleasure of helping organize the Fuerzas y Túnel Conference, a biennial event that brings together the Spanish and international scientific community to discuss the latest developments in scanning probe microscopy. [Book of abstracts](#).

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 ($T \approx 4$ K) and ultra-high vacuum ($P \sim 10^{-11}$ mbar).

RESEARCH INTERNSHIP: MOLECULAR & COMPUTATIONAL PHYSICS 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](#): <https://doi.org/10.20350/digitalCSIC/17300>. Currently preparing a paper to be published soon.

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 performance of a marine diesel engine. [Public talk's presentation here](#).

APPLICATIONS OF ML TO THE STUDY OF BRAIN METASTASES 04-06/2024

Python project developed inside the context of Saturdays AI Asturias. [Github link](#) [Code link](#)

EDUCATION

MSC IN THEORETICAL PHYSICS 2025-

Utrecht University

BACHELOR OF SCIENCE - PHYSICS (240 ECTS) 2025

University of Oviedo

Bachelor Thesis: *Connecting theory and experiment: study of molecules on surfaces through 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 ★★★★★☆

LINUX/BASH ★★★★★☆

C++ ★☆☆☆☆

MOLECULAR DYNAMICS

COMPUTATIONAL PHYSICS

DATA SCIENCE/ANALYSIS

LANGUAGES

SPANISH ★★★★★

Native

ENGLISH ★★★★★☆

Fluent (Level C2)

ABOUT MYSELF

I am passionate about science, I enjoy 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. For more info about me, visit my website mateo.github.io.

CERTIFICATIONS

CAMBRIDGE ADVANCED

2025

Overall score of 203, Level C2. [Certificate](#)

OXFORD JUNIOR PROGRAMMES

07/2018

45 Hour English Course, Edinburgh. [Certificate](#)