

## Contactar

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[mendzmartin.github.io/](https://mendzmartin.github.io/) (Personal)

## Aptitudes principales

Origin (Software)  
Google Gemini  
Mathematica

## Languages

Español (Native or Bilingual)  
English

## Honors-Awards

University prize 2019-class

## Publications

Julia package to resolve the time-independent Schrödinger (TISE) equation by the finite element method (FEM)

Mechanical design of speaker mount for a head transfer function measurement system

Platform optimization with controllable horizontal rotational movement for a head transfer function measurement system

Manufacture and characterization of epoxy granite for use in machine tools

Dynamics of correlations and entanglement generation in electron-molecule inelastic scattering

# Martin Mendez

PhD Candidate in Quantum Physics | Mechanical Engineer |  
Automation and Control Systems Technician  
Córdoba, Córdoba, Argentina

## Extracto

As a PhD student in Physics, I explore charge carrier dynamics in nanoscale systems, focusing on processes of electronic capture and emission in confined environments. My background as a Mechanical Engineer (University Prize for highest GPA) allows me to bridge fundamental theory with practical engineering. I specialize in designing high-performance scientific software, such as FEMTISE.jl, leveraging HPC and parallelization to tackle complex quantum problems. My current research extends to photon-molecule interactions and cavity-QED phenomena, aiming to connect theoretical breakthroughs with experimental validation at the nanoscale.

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## Experiencia

### FAMAF - UNC

2 años

Assistant Professor - General Physics II  
marzo de 2025 - Present (1 año)

Cordoba, Córdoba, Argentina

Assistant Professor - Mathematical Analysis II

marzo de 2025 - Present (1 año)

Cordoba, Córdoba, Argentina

Professor - University Entrance Course

febrero de 2025 - febrero de 2025 (1 mes)

Cordoba, Córdoba, Argentina

Assistant Professor - Introduction to Physics

marzo de 2024 - febrero de 2025 (1 año)

Cordoba, Córdoba, Argentina

### CONICET

PhD Candidate CONICET Intern

abril de 2021 - Present (4 años 11 meses)

Córdoba, Argentina

Condensed Matter Theory Group (GTMC) - Institute of Physics Enrique Gaviola (IFEG) - National Scientific and Technical Research Council (CONICET) - Faculty of Mathematics, Astronomy, Physics and Computation (FAMAF) - National University of Córdoba (UNC).

Facultad de Ciencias Químicas - Universidad Nacional de Córdoba  
Assistant Professor - Mathematics I

marzo de 2024 - febrero de 2025 (1 año)

Cordoba, Córdoba, Argentina

CINTRA - Centro de Investigación y Transferencia en Acústica,  
UTN-FRC

11 meses

Research residency

agosto de 2019 - junio de 2020 (11 meses)

Córdoba, Córdoba, Argentina

Supervised Professional Practice

septiembre de 2019 - diciembre de 2019 (4 meses)

Córdoba, Córdoba, Argentina

Facultad de Ciencias Exactas Físicas y Naturales

Undergraduate Intern Professor - Mechanics

marzo de 2019 - marzo de 2020 (1 año 1 mes)

Cordoba, Córdoba, Argentina

Comisión Nacional de Energía Atómica

Professional Practice

enero de 2020 - febrero de 2020 (2 meses)

San Carlos de Bariloche, Río Negro, Argentina

Innovajelk S.A.

General technical assistant

septiembre de 2014 - noviembre de 2014 (3 meses)

San Carlos de Bariloche, Río Negro, Argentina

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## Educación

Universidad Nacional de Córdoba

Doctor of Philosophy - PhD, Physics · (agosto de 2020)

Facultad de Ciencias Exactas Físicas y Naturales

Engineering Degree, Mechanical Engineering · (2015 - 2019)

Universidad Nacional de Córdoba

Bachelor's degree, Physics · (2018 - 2020)

Universidad Nacional de Córdoba

Language courses, English Language · (enero de 2019 - enero de 2020)

Escuela Cooperativa Técnica Los Andes

Technique, Automatization and Control Systems · (2009 - 2014)