
Work experience

- 2021- **Research staff in training**, *Consejo Superior de Investigaciones Científicas CSIC*, Madrid
Four-year contract in program grant PRE2019-094407 at Instituto de Ciencias Matemáticas (CSIC).
- 2018 - 2019 **Undergraduate level professor**, *Academia ConoSer*, Sevilla
Physics and mathematics teaching in private academy at university and high-school level.
- July 2017 **Research fellowship**, *CERN - High Energy Physics Institute (IFAE)*, Geneva
Research fellowship at CERN, developed algorithms for collision data from ATLAS detector.

Education

- 2021 **Master's Degree in Advanced Mathematics**, *Universidad Complutense de Madrid*
Awarded scholarship by CSIC for master thesis research in *Instituto de Ciencias Matemáticas*.
- 2023 **Master's Degree in Physics**, *University of Bonn*
Awarded scholarship by Bonn-Cologne Graduate School to study theoretical physics *Honors Branch*.
- 2019 **Double Bachelor's degree in Mathematics and Physics**, *Universidad de Sevilla*
Obtained both degrees: BSc in Mathematics and BSc in Physics.

Technological skills

- Languages** Python (pandas, numpy, scikitlearn, matplotlib), Haskell, MATLAB (simulink), Mathematica, ROOT, \LaTeX .
- Tools & OS** Git, shell scripting (Bash), Vim. x86: Linux (Arch, Debian) and Windows. ARM: Raspbian.
- Web developing** LEMP stack, dovecot/postfix mailserver, Gitolite, Nextcloud. HTML, CSS, Javascript.

Scientific skills

- Computation** Design and analysis of algorithms, numerical methods for differential equations, optimization in operations research.
- Data science** Hypothesis testing, parameter estimation, time-series analysis, Markovian and stochastic processes. Large data analysis in collision physics.
- Experimental science** Hardware and electronics tests with PSpice, wave-guide characterization, nuclear spectroscopy devices, material properties measurements in solid state physics. Detector physics.

Publications

- 2021 **Dimensional reduction of the Kähler–Yang–Mills equations**, Aguado López, Msc thesis.
- 2020 **Semigroup theory in Quantum Mechanics**, Aguado López et al, TEMat (link).
- 2019 **Propagator theory: electroweak processes**, Aguado López, Bachelor thesis (link).

Soft skills

- Languages** English (C1 level), Spanish (mother tongue), French (intermediate), German (basic).
- Communication** 1 year experience in high-school and university-level teaching. Ample experience communicating in international research and technical meetings. Graduation speech of first double degree Math-Phys in Universidad de Sevilla.
- Management** President of Sevilla Physics Student Association (2016-2017): organized astronomy trips, teaching courses in advanced mathematics for physics, and managing funding grants. Collaborator in organizing the *XVIII International Fall Workshop in Geometry and Physics*.

About me

A nature and sports enthusiast, I enjoy hiking, playing volleyball and recently, bouldering. Even though as an amateur, I am very passionate about music, playing electric and acoustic guitar. I am quite fond of travelling and being exposed to new cultures.