

Manuel Martín Bravo | Curriculum Vitae

Education

Universidad de La Laguna

Doctor of Philosophy. Score : 10/10 "cum laude" (with honors)

Ph. D. Thesis: Numerical simulations of viral capsids using coarse-grained models. [Link here](#)

Universidad Complutense de Madrid

Master in Energy. Score : 7.80/10

End-of-Master's Work: Energy conversion in electrokinetic membrane processes.

Universidad de La Laguna

Degree in Physics. Score : 7.84/10

End-of-Degree's Work: Measurement of high and low frequency electromagnetic fields.

Structure of Matter

2018–2022

General Energy

2015–2016

Applied Physics

2011–2015

Work experience

Department of Applied Physics. Universidad Autónoma de Madrid.

Support Researcher

Grant PEJ-2021-AI/IND22223 (Comunidad de Madrid, Spain). Chemical Beam Epitaxy, X-Ray Diffraction, optical lithography, electrical characterization of solar cells, quantum wells, real-time image acquisition.

Department of Sciences and Digital Technology. Universidad Europea de Madrid.

Lecturer

Quantum Physics II, Nuclear and Particle Physics, Scientific Computation I and II, Calculus II, Fundamentals of Physics II and

cosupervised one End-Of-Degree work: *485 hours of teaching.*

Fundamental Physics Department. Universidad de La Laguna.

Predocctoral researcher

Grant FIS2016-79596-P (MINECO/FEDER, UE), "Formación del Personal Investigador" (FPI). Venia Docendi for several laboratories (Physics and Engineering): *171 hours of teaching.*

Academia Avance

Academy Teacher

Mathematics, Physics, Chemistry, Technical Drawing and basic English.

Condensed Matter Physics Department. Universidad Autónoma de Madrid.

Technician

Measurements and simulations of magnetic dynamics and measurements of conductance and noise for the Magnetrans's Group.

Electricidad Felip Manteca

Internship - Master in Energy

Condensed Matter Physics Department. Universidad Autónoma de Madrid.

Internship - Student Tutor of Physics Lab I

UAM

2023-Pres.

UEM

2022-2023

ULL

2018-2022

AA

2017-2018

UAM

2017

UCM

2017

UCM

2017

Languages

Spanish (native), English (high/intermediate, B2) and French (basic).

Licenses

Open Water Diver – ACUC Interational

Driving License B – Kingdom of Spain

2011-Pres.

2011-Pres.

Computer skills

BASIC, Autodesk Simulation CFD, DIALux, TracePro, Labview, Inkscape, Blender, FreeCAD, LabPlot.

Matlab&Simulink, Scilab&Xcos, Gimp, LibreCAD, Origin, SigmaPlot.

Linux, Python, Fortran, C/C++, LATEX, QtiPlot, LibreOffice, OpenACC, OpenMP, Open MPI.

Elemental

Intermediate

Advanced

Publications

- ⑩ M. Martín-Bravo, J. M. Gomez Llorente* and J. Hernández-Rojas, *Virtual indentation of the empty capsid of the minute virus of mice using a minimal coarse-grained model*, Phys. Rev. E (2024) 109, 024402. DOI: 10.1103/PhysRevE.109.024402
- ⑩ M. Martín-Bravo, J. M. G. Llorente*, J. Hernández-Rojas and D. J. Wales, *Minimal design principles for icosahedral virus capsids*, ACS Nano (2021), 15, 14873 - 14884. DOI: 10.1021/acsnano.1c04952
- ⑩ M. Martín-Bravo, J. M. Gomez Llorente* and J. Hernández-Rojas, *A minimal coarse-grained model for the low-frequency normal mode analysis of icosahedral viral capsids*, Soft Matter (2020), 16, 3443 - 3455. DOI: 10.1039/D0SM00299B

Conferences and courses

- ⑩ M. Martín-Bravo*, *An apophatic description of spherical shells*, POSTER, XII Reunión de la División de Física de la Ma-teria Condensada de la RSEF. GEFES2023, 2023, Salamanca, Spain.
- ⑩ M. Martín-Bravo*, J. Hernández-Rojas and J. M. Gomez Llorente, *Unveiling latent instabilities in the empty Satellite Tobacco Necrosis Virus capsid by performing a low-frequency normal modes analysis using a novel coarse-grained model*, POSTER, CMD2020GEFES mini-colloquium. Out-of-equilibrium physics in biology, 2020, virtual.
- ⑩ M. Martín-Bravo*, J. Hernández-Rojas and J. M. Gomez Llorente, *A minimal smooth coarse-grained model of the interaction between rotationally symmetric capsomers*, ORAL PRESENTATION, CMD2020GEFES mini-colloquium. Physics and Function of Protein Nanoshells : from Viruses to Biomimetic Nanocontainers, 2020, virtual.
- ⑩ M. Martín-Bravo*, J. Hernández-Rojas and J. M. Gomez Llorente, *Low-frequency normal modes analysis of the Satellite Tobacco Necrosis Virus capsid using a minimal model*, POSTER, Network in Physical Virology 2019, Bilbao, Spain.
- ⑩ M. Martín-Bravo*, *Bueno, bonito, barato : Optimización numérica aplicada a la Física, el método de "Basin-Hopping"*, ORAL PRESENTATION, Congreso de Estudiantes de Física XII, 2019, Santa Cruz de Tenerife, Spain.
- ⑩ M. Martín-Bravo*, *Industrial Property and Copyright*, SPEAKER, 3 Ed. Ciclo de Patentes, Curso Biblioteca, 2019, Facultad de Ciencias Físicas (UCM).
- ⑩ M. Martín-Bravo*, *Industrial Property and Copyright*, SPEAKER, 2 Ed. Ciclo de Patentes, Curso Biblioteca, 2018, Facultad de Ciencias Físicas (UCM).
- ⑩ M. Martín-Bravo*, *Industrial Property and Copyright*, SPEAKER, 1 Ed. Ciclo de Patentes, Curso Biblioteca, 2017, Facultad de Ciencias Físicas (UCM).