Olivier Rousselle, PhD in physics-maths

Education

Aix-Marseille University – Master Theoretical Physics
ENS Ulm Paris – Master Philosophy of science
2017 - 2019

AgroParisTech – Engineer School – Applied mathematics
2013 - 2017

Preparatory class BCPST - Physics, mathematics, biology
2011 - 2013

Professional experiences

Sorbonne University / Laboratory Kastler Brossel – PhD in quantum physics
September 2019 to September 2022
- ▶ Statistical analysis of classical and quantum measurements of free fall acceleration of antimatter atoms. Member of the GBAR collaboration: https://gbar.web.cern.ch/
  Competencies: data analysis, Python, 3D modeling, particle physics,…
- ▶ Teaching mission in maths / physics / computing, bachelor level.

CERN – Summer student program
July to September 2019
- ▶ 3D modeling and fast simulation of the ATLAS Forward Proton (AFP) detector.
- ▶ Webfest (CERN hackathon): 3rd price.

ENS Ulm Paris – Research thesis on the foundations of quantum physics and wave mechanics
March to August 2019

CNRS – Agent-based modeling of socio-ecosystems of Polynesia
May to October 2017
- ▶ Evaluation of the cumulated impacts on the marine resource of a socio-ecological coral system in French Polynesia.

IPGP (Paris Institute of Earth Physics) – Internship in volcanology
February to April 2016
- ▶ Sociological analysis of the vulnerability of the population facing volcanic risk.
- ▶ Treatment of seismological data in Martinique.

Contact me

✉ olivierrousselle@live.fr

📞 +33684019509

in olivier-rousselle-30178b12a/

Interests
Physics, mathematics, music
Cryptocurrency, finance
Sports: tennis, running, hiking
Environmental associations

Computing
Python, C++, C#, Javascript
https://www.github.com/olivierrousselle/
Mathematica, Matlab
Agent-based modeling
QGis, Arcgis
Geant4, Root (particle physics)
TensorFlow, Scikit-learn (machine learning)
Qiskit, Q# (quantum computing)

Prize
Winner of the price "Research Engineer Trophy 2021 – Usine Nouvelle" for the doctoral research on quantum physics.

Languages
French, native language
English, advanced level
Spanish, intermediate level

Relevant publications

O. Rousselle, P. Cladé, S. Guellati, R. Guérout and S. Reynaud, *Improving the statistical analysis of antihydrogen free fall by using near edge events*, Physical Review A105, 022821, 2022

O. Rousselle, P. Cladé, S. Guellati, R. Guérout and S. Reynaud, *Analysis of the timing of freely falling antihydrogen*, New Journal of Physics 24, 033045, 2022

O. Rousselle and S. Reynaud, *Analysis of measurements of free fall acceleration of antihydrogen in the GBAR experiment*, Proceedings of the 56th Rencontres de Moriond 2022, ARISF

O. Rousselle, P. Cladé, S. Guellati, R. Guérout and S. Reynaud, *Does antimatter fall like matter?: simulation of the GBAR experiment*, Andromeda proceedings, BSM 2021

D. Arruga, O. Rousselle and O. Minazzoli, *Compact Objects in Entangled Relativity*, Physical Review D 103, 024034, 2021

O. Rousselle and T. Sykora, *Fast simulation of Time-of-Flight detectors at the LHC*, EPJ Web of Conferences 251, 03027, CHEP 2021

ResearchGate page: https://www.researchgate.net/profile/Olivier-Rousselle-2

Workshops / conferences

Below the list of workshops and conferences attended and the contribution (talk or poster) - given:

Vienna Summer School 2020 on Gravitational Quantum Physics (September 2020, online)	poster
Les Houches School on Quantum Technologies with Light and Matter (September 2020)	poster
Polytechnique Data Science School (January 2021, online)	poster
Beyond Standard Model: From Theory to Experiment (March 2021, online)	talk
International Conference on Computing in High-Energy and Nuclear Physics (May 2021, online)	talk
Congrès Optique Dijon (July 2021)	poster
Quantum Simulation, Institut d'Etudes Scientifiques of Cargèse (August 2021)	talk
Oxford Machine Learning Summer School (August 2021, online)	talk
EXA International Conference on Exotic Atoms, Vienna (September 2021, online)	talk
32nd Rencontres de Blois on Particle physics and Cosmology (October 2021)	talk
56th Rencontres de Moriond on Gravitation (February 2022)	talk