Diego Alberto Baron Moreno

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Skills and Qualifications

I am a young particle physicist with a strong basis in theoretical physics. I have taken several courses in quantum physics, general relativity and quantum field theory during my career. Additionally, I have computing experience in Python, Git, Linux and machine learning with Tensorflow.

I have also gained research skills due to my participation in the high energy physics research group of my university during the last four years.

I describe myself as a proactive, responsible, organized and dedicated person. I work well in teams thanks to my leadership ability, communication skills and empathy or accommodate to a team work plan coming from my superiors.

I finished my master's degree at Universidad de Antioquia, I was part of the Compact Muon Solenoid Collaboration (CMS). My role was to help with the Trigger development for a future analysis proposed for the High Luminosity Large Hadron Collider project, searching for dark matter signals in proton-proton collisions. I am interested in learning about experimental particle physics and Big Data analysis.

Education

Universidad de Antioquia, Medellín. *Physicist*

From February of 2011 to June of 2016

Undergraduate project: Path integrals in curved space-time.

Advisor: Dr. Nelson Vanegas.

Universidad de Antioquia, Medellín: *Master in Physics*

From August of 2017 to June 15 of 2019

Master's Thesis: Development for a High Level Trigger for a Compressed Spectra Vector-Like Fermions Model for the CMS detector at LHC.

Advisors: Dr. Nelson Vanegas, Dr. José David Ruiz.

University of Manchester, Manchester, UK: *PhD in Physics*

Advisor: Prof. Terry Wyatt FRS.

Projects

Skills

Theoretical skills:

Quantum Field Theory

Experimental HEP

Programming skills:

Python:
Numpy/Pandas/Scipy/Sci-kit learn

C++

Git

Linux/Bash

ML with TensorFlow

Awards

- Best physics advanced student. (2015 and 2015)
- Talented Student

Languages

Mother tongue: Spanish

English: C1

Skill	Level
Listening	C1
Reading	C1
Speaking	C1
Writing	C1

Implementation of the cooperation project between the university and the CMS experiment.

Master student.

ATLAS Tau Combined Performance Group.

PhD student.

ATLAS Manchester Group.

PhD student.

Teaching experience

Mechanics (From 2016 to 2019)
Engineering faculty, Universidad de Antioquia

Fundamentals in Computing (From 2016 to 2017)

Natural and Exact Sciences faculty, Universidad de Antioquia

Fundamentals in Computing (From 2021)

Physics and Astronomy Department, University of Manchester

ATLAS Open Data Undergraduate Lab (From 2020)

Physics and Astronomy Department, University of Manchester

Schools and Events

2018 CMS Data Analysis School (CMSDAS) at the LPC in Fermilab

IV UNIANDES PARTICLE DETECTOR SCHOOL
Poster: HLT Path for Compressed Spectra Vector-Like Fermion Models

2016 Colombian Meeting on High Energy Physics

Centenary Celebration of General Relativity Theory: Adean School on Gravity and Cosmology

Simposio Andino de Astrofísica Relativista