



Application for the DUNE experiment

Universidad EIA

Envigado, Colombia

Professor: Amalia Betancur-Rodríguez

The university

- Located in Envigado, next to Medellín, Colombia.
- With over 1800 students.
- Programs in Physics and Engineering
- PhD. Program in Engineering.
- With a new building dedicated to laboratories under construction.



The group



- Dr. Juan Guillermo Suárez:

More than 20 years' experience in HEP experiment, including work in E158 at SLAC and CMS at CERN. Was a member of the muon trigger group and generator group at CMS.

- Dr. Guillermo Palacio:

HEP phenomenology with experience in building extensions of the SM model that address the neutrino mass and dark matter problems. Additionally, work in constraining models using neutrino physics, direct and indirect detection as well as collider phenomenology.

- Dr. Amalia Betancur:

Research oriented towards model building and statistical analysis for DM and neutrino masses. Using also HEP packages for constraining the models.

- We will also work alongside electronic engineers for the experimental contribution at DUNE.

Our Contributions:

Experiment:

We are working with other Colombian and South American institutes to design and later test the warm interface board for the photon detector system of the far detector in single phase.

Phenomenology:

Build models of sub GeV dark matter that may be studied in the near detector.

Funding Resources:

University internal research resources.

We are coordinating with other Colombian DUNE members to access funding from the government's science agency (COLCIENCIAS).

A photograph of a modern university building with a large overhang and a courtyard. The text "THANK YOU" is overlaid in a green box. The building is white with large windows and a prominent overhang. In the background, a courtyard with a fountain and the words "UNIVERSIDAD EIA" is visible. Several people are sitting on a brick ledge in the foreground.

THANK YOU