

# LA-CoNGA physics: an open science education collaboration between Latin America and Europe for High Energy Physics

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Reina Camacho Toro

LPNHE-Paris CNRS/IN2P3, France

Member of the ATLAS Collaboration

Deputy Scientific Coordinator LA-CoNGA physics

A region with strong scientific traditions. A region with a lot of potential and a young generation interested in advanced physics topics, cutting-edge techniques, avid for knowledge. A region with a very heterogeneous development among countries and even among regions in the same country, with different funding opportunities and affected by a variety of social and economical realities. That's Latin America.

How to build capacity under those conditions? What happens when person power available in the universities and research center is small but motivated? Well, we can merge efforts because together we are stronger. In this contribution I would like to discuss how Virtual Research and Learning Networks (VRLCs)[1] generating international productive consortiums in virtual research environments and forming the new generation of scientists, can be part of the solution to this reality. These environments are key to improve accessibility and inclusion for students and researchers in developing countries. In this talk we will discuss one VRLC in particular: LA-CoNGA Physics (Latin American alliance for Capacity building in Advance physics) [2].

LA-CoNGA physics aims to support the modernization of the university infrastructure and the pedagogical offer in advanced physics in four Latin American countries: Colombia, Ecuador, Peru and Venezuela. This virtual teaching and research network is composed of 3 partner universities in Europe and 8 in Latin America, high-level scientific partners (CEA, CERN, CNRS, DESY, ICTP), and several academic and industrial partners. The project is co-funded by the Education, Audiovisual and Culture Executive Agency (EACEA) of the European Commission.

Open Science education and Open Data are at the heart of our operations. In practice LA-CoNGA physics has created a set of postgraduate courses in Advanced Physics (high energy physics and complex systems) that are common and inter-institutional, supported by the installation of interconnected instrumentation laboratories and an open e-learning platform.

This program is inserted as a specialization in the Physics masters of the 8 Latinamerican partners in Colombia, Ecuador, Peru and Venezuela. It is based on three pillars: courses in high energy physics theory/phenomenology, data science and instrumentation. The program is complemented by transversal activities like seminars, citizen science projects and open science hackathons [3]. In the current context, VRLCs and e-learning platforms are contributing to solve challenges, such as distance education during the COVID19 pandemic and internationalization of institutions in developing countries.

***If other contributions featuring similar initiatives in Africa and other regions in the Global South are sent to ACP2023, then I would be very glad to organise a discussion or panel session with all these contributions. I am sure there are many things to learn from each other and good practices to share as well.***

**References:**

[1] <http://www.oecd.org/sti/inno/international-distributed-research-infrastructures.pdf>

[2] <http://laconga.redclara.net>

[3] <https://laconga.redclara.net/hackathon/>