
International Collaboration

HELEN network unites Europe and Latin America

Luciano Maiani describes the creation of the High Energy Physics Latin-American-European Network - HELEN - which aims to promote fundamental physics in Latin America through training the younger generations in high-energy physics.

Résumé

HELEN: un pont entre l'Europe et l'Amérique latine

Le réseau Europe-Amérique latine de physique des particules, baptisé HELEN, a démarré officiellement le 1^{er} août. Ce réseau, créé par l'Union européenne, vise à promouvoir la physique fondamentale en Amérique latine par la formation des jeunes générations à la physique des hautes énergies. Luciano Maiani décrit la création de ce réseau, auquel participent 22 universités et instituts de recherche issus de huit pays d'Amérique latine, 16 issus de six pays européens, ainsi que le CERN.

After I became director-general of CERN in 1999, I had the chance to meet Juan Antonio Rubio, a well known experimental physicist and former collaborator of Carlo Rubbia and Samuel Ting, who is now the director-general of CIEMAT, Spain. In addition to his other good qualities, Rubio has a deep knowledge of Latin America - her people, schools and traditions. We understood that the Large Hadron Collider (LHC) being built at CERN offered a great opportunity to renew old ties with Latin America and to attract to Europe and CERN a new generation of experimental physicists.

In the past, ties between European and Latin American particle physics had been very strong, involving well known physicists such as Cesar Lattes, José Leite Lopez, Roberto Salmeron and many others. Lately, however, Latin American experimental physicists had turned to the US, and Fermilab in particular, as their main point of contact in particle physics. The US had opened up to them and to their students under the enlightened action of Nobel prize-winners such as Richard Feynman, whose stay in Brazil had an enormous influence on the development of fundamental physics there, and Leon Lederman. On the other hand, theoretical physicists in Latin America had always considered CERN as one of their main poles of interest (together with the International Centre for Theoretical Physics, Trieste) with physicists of the calibre of John Ellis, Alvaro de Rújula and Luis Alvarez Gaumé being particularly friendly to Latin Americans.



[HELEN project website](#)



Mobility of physicists

The first step towards rebuilding the relationship with Latin America was launching a biannual CERN-Latin American school of physics. I discussed the matter with Egil Lillestol at the 1999 European School of High-Energy Physics in Bratislava, and we concluded that the

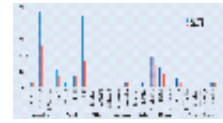
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conditions were right to go ahead. The first Latin American school, modelled on CERN's long-standing European School of High Energy Physics, was held two years later in Itacuruça, Brazil (see [CERN Courier](#) September 2001 p10). It was a clear success, demonstrating the interest of the younger Latin American generation in European physics, CERN and the LHC.

At the same school, I also saw first-hand a strong interest going in the other direction, with European physicists curious about the Pierre Auger Observatory, the ultra-high-energy cosmic-ray detector being built in Argentina. Indeed, as I learned at Itacuruça, the sum of contributions to the project from CERN member states was already larger than the contribution made by the US via the Department of Energy, a nation historically considered the main partner of Latin American countries.



Other direction

The first Latin American School of High Energy Physics marked the beginning of a new collaboration, but during the following years the problem was how to keep the collaboration going, in view of the difficulties that were arising from financing the LHC. In late summer 2003, Philippe Busquin, the EU commissioner for research whom I had asked for support, pointed out that a programme from the EU Commission, América Latina - Formación Académica (ALFA), was the natural framework for stabilizing relations between CERN and Latin America, by taking advantage of the potential for training young physicists that the LHC offered.



What is HELEN?

Rubio and I quickly got the message and started to prepare an application to ALFA. Fortunately, another lucky circumstance made the enterprise possible. Verónica Riquer, a former student of Marcos Moshinsky (a well known nuclear theorist from Universidad Nacional Autónoma de México, UNAM), was a postdoctoral fellow in CERN's theory division. A good friend of Rubio, Riquer somehow knows everybody doing physics anywhere in Latin America, and even has a clear idea of what they are actually doing.

Riquer enthusiastically adopted the project that was going to have a big impact on her for the next few years ("HELEN nos va matar" she warned me in the difficult periods - "HELEN is going to kill us!"). Indeed, she proved the crucial person to connect with high-energy physics groups in Latin America, to get them involved in the hard work of preparing a valid application to the (notoriously difficult) EU Commission and, finally, to convince so many people on a different continent to persuade 22 rectors to sign an agreement with the EU at very short notice. Eventually, the full application was finished during the night of 29 April 2004, and taken by hand to Brussels the following morning, complying exactly with the deadline of 30 April 2004. Riquer left CERN to see her family in Mexico, and Rubio and I could relax. The High Energy Physics Latin-American-European Network (HELEN) now existed.

HELEN is a big project. Over three years, it will involve stays in Europe totalling 1002 months (70% at CERN) for students and young researchers from 22 institutions across eight countries in Latin America, and stays in Latin America totalling 164 months for physicists from seven European countries (about 50% at the Pierre Auger Observatory). In addition, some 15% of the budget is dedicated to visits from professors in the network, to give seminars, oversee students and start new collaborations. Each institution has one reference person (the "interlocutor"), among them Arnulfo Zepeda in Mexico, Alberto Santoro in Brazil and Teresa Dova in Argentina. All in all, we expect a whole new generation of Latin American physicists to be trained in particle physics at the most advanced facilities in the world, and to establish new ties with their European peers.

On a happy day last February, we received the news that HELEN had

been approved and that we could start discussing the practical implementation of the contract. In fact, at the time I was in Mexico, spending two months at the Centro de Investigación y Estudios Avanzados del Instituto Politécnico Nacional (CINVESTAV). There, I could see first-hand the enthusiasm that HELEN was raising in Latin America. In the few months since HELEN's approval, we have had to refine the project and make it suitable for a contract between the EU and the Università di Roma "La Sapienza", the coordinating institution of HELEN. However, at last, the contract was signed on 28 July and the project officially started on 1 August.

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