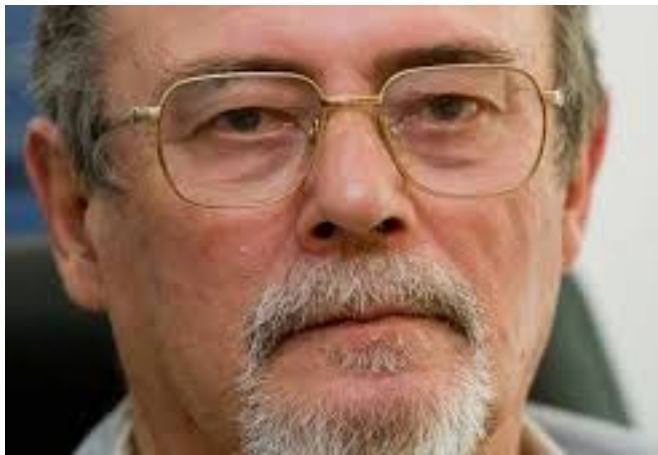


Astroparticle Physics

Scientific collaboration between Portugal and Latin American



Gaspar Barreira 1940-2019

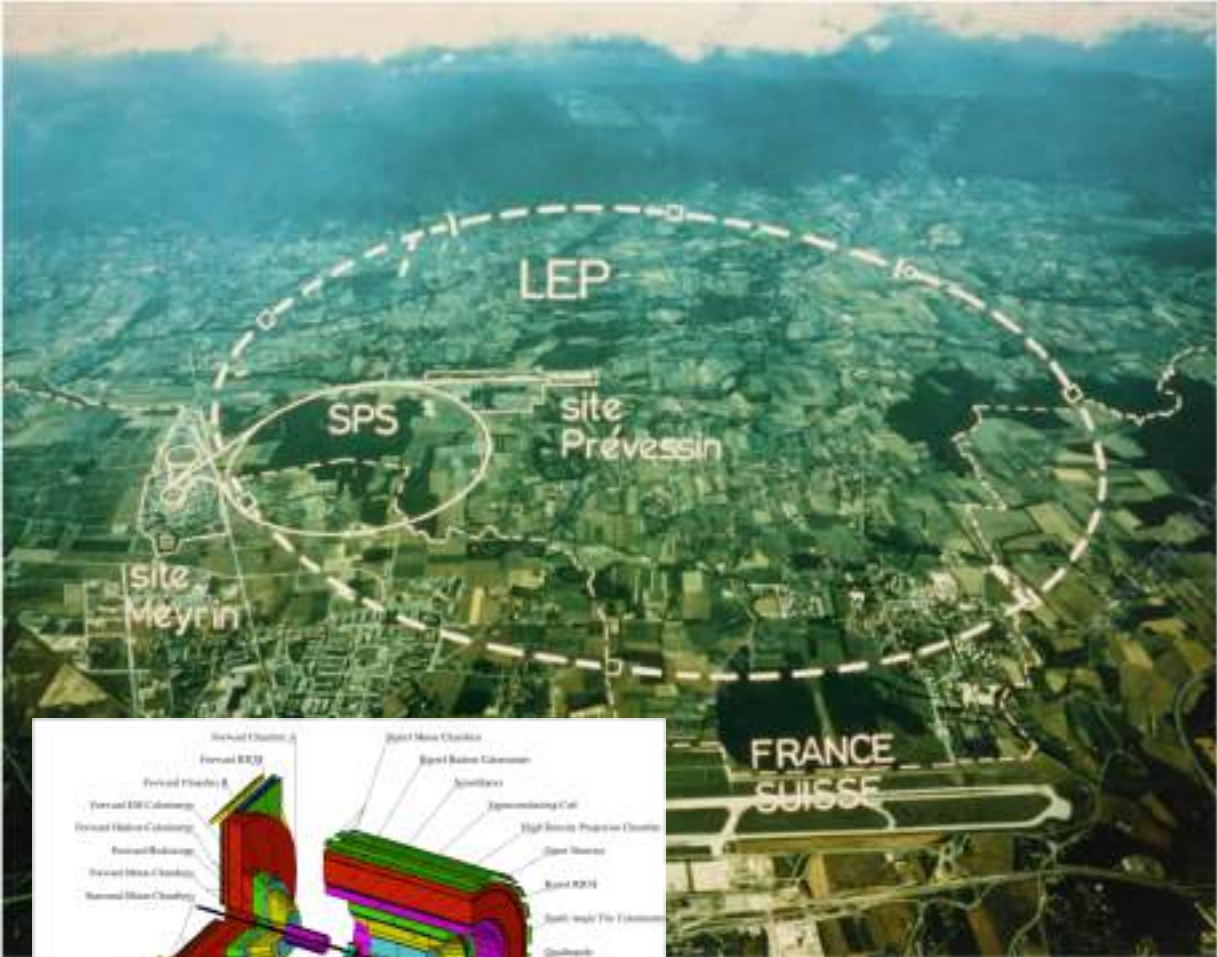


Ron Shellard 1948-2021

All start at CERN ...

1987

Brazil in the DELPHI experiment via Portugal



Maria Elena Pol and Ron Shellard in the DELPHI@Lisboa (1988)



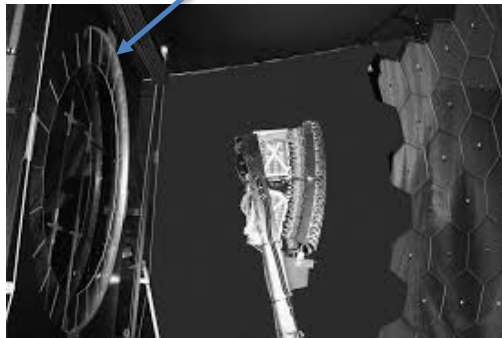
And then Auger

2005

Portugal joined the Pierre Auger Collaboration with the active support of several Latin-American Countries namely Brazil, Argentina, Mexico

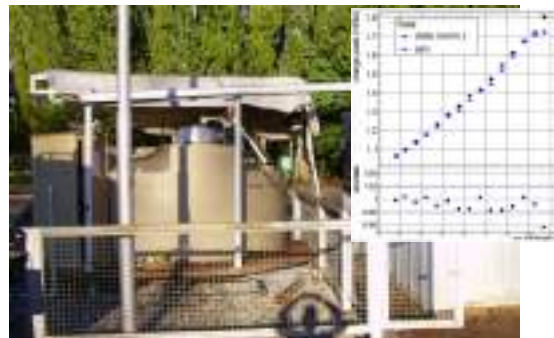


HEAT corrector rings (2006)



Campinas / Lisboa

Standalone RPCs (2012 - ...)



Coimbra/Lisboa/ Rio / San Carlos (including a FAPESP-FCT project)

MARTA



Large Array Telescope for Tracking Energetic Sources

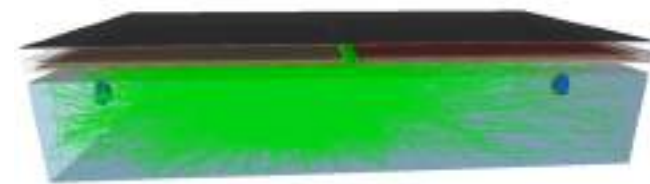


Astroparticle Physics
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Design and expected performance of a novel hybrid detector for very-high-energy gamma-ray astrophysics

P. Assis ^{a, b}, U. Barres de Almeida ^c, A. Blanco ^d, R. Conceição ^{e, f, g, h}, B. D’Ettorre Piazzoli ^e, A. De Angelis ^{i, j, k, l, m}, M. Doro ^{n, o}, P. Fonte ^d, L. Lopes ^d, G. Matthiae ^l, M. Pimenta ^{h, i}, R. Shellard ^{e, g, h}, B. Torné ^{a, b}

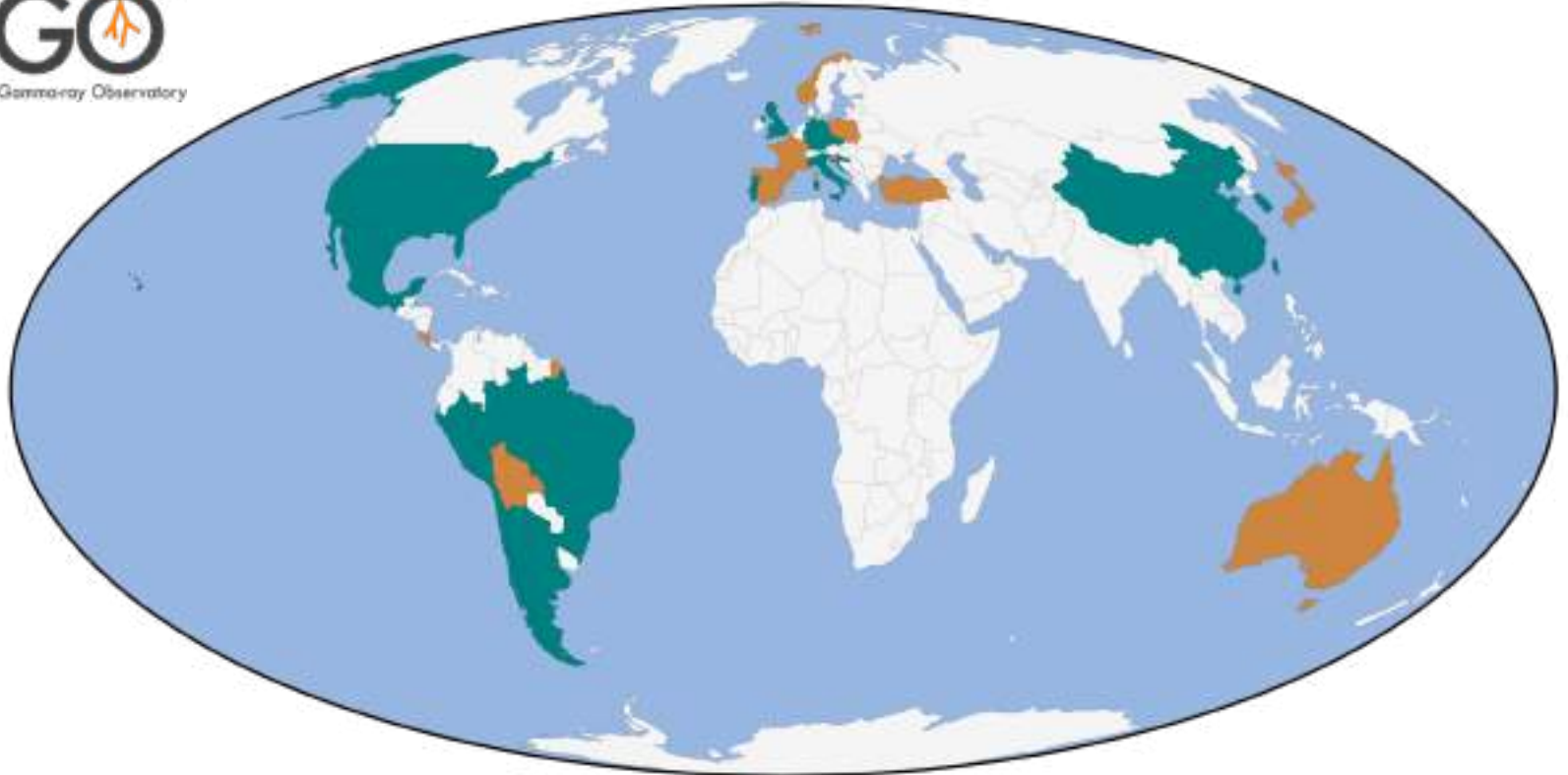


Site for simulations: Alma site in the Atacama desert.

23.7 S , 5060 m a.s.l.

The Southern Wide-field of view Gamma-ray Observatory (SWGGO)

> Maio 2019



80 research institutions from fourteen countries

Education and Outreach

Since 2009

CERN Portuguese Language Teacher Programme

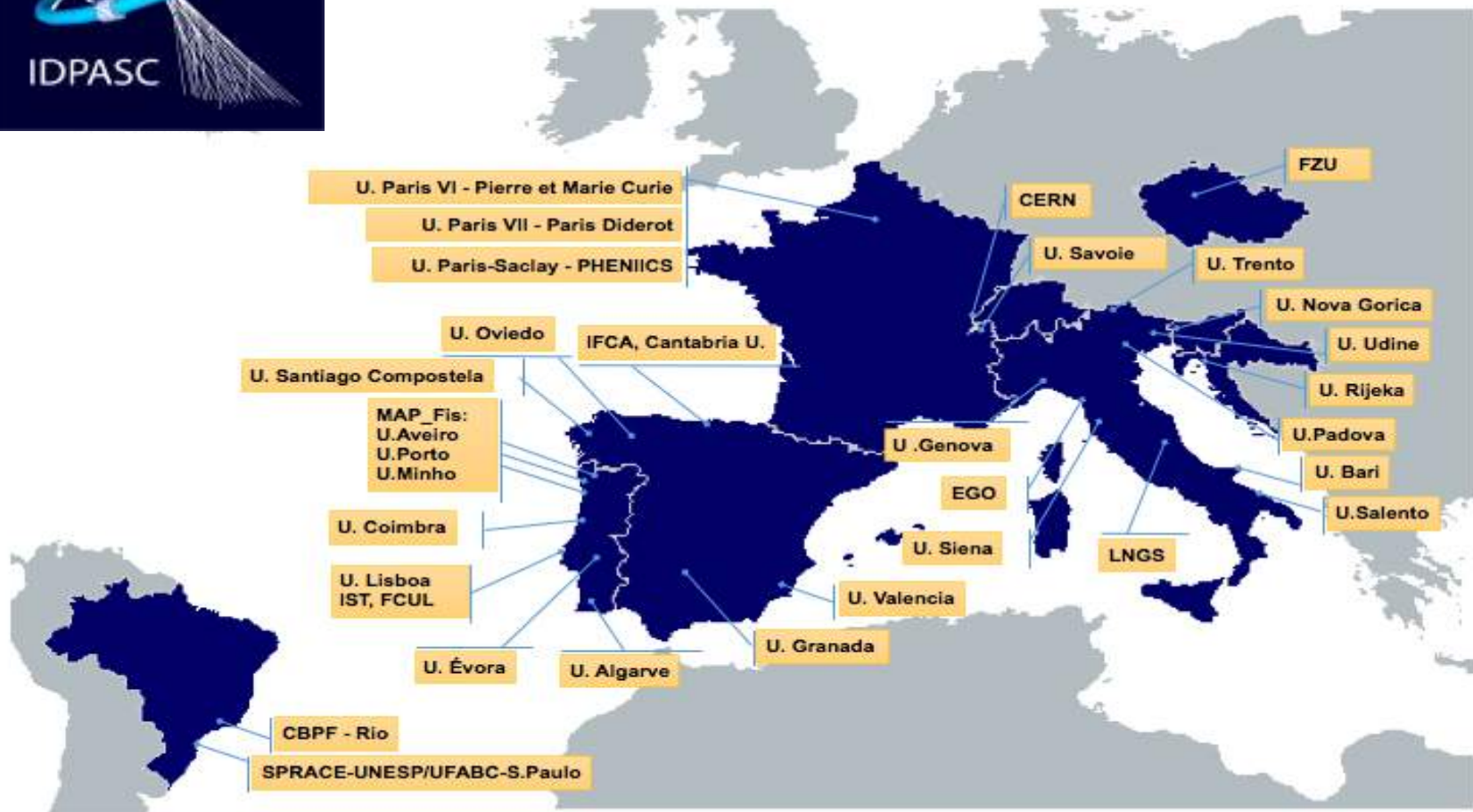


245 Brazilian high school teachers (2009-2019)



IDPASC

International Doctorate Network in Particle Physics, Astrophysics and Cosmology



The Future is ahead of us!

and Portugal is fully committed to pursue its already long collaboration with the Latin American astroparticle community



