# Hernán Asorey

**Medical Physics Department – Gerencia de Física**

Comisión Nacional de Energía Atómica
Centro Atómico Bariloche, Río Negro
ITeDA Centro Atómico Constituyentes, Buenos Aires
Argentina

Phone: (+54-294) 444-5100 ext 4842
Phone: (+54-11) 6772-7000 ext 7596
Email: asoreyh@cab.cnea.gov.ar

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## Personal Information

Born in Quilmes, Buenos Aires, Argentina, on February 05$^{th}$, 1974 (44 years old)
Argentinian, married, two daughters.

## Current Positions

Head of the Medical Physics Department, Gerencia de Física (GF), Gerencia de Área de Investigaciones y Aplicaciones No Nucleares (GAIYANN), Centro Atómico Bariloche (CAB), Comisión Nacional de Energía Atómica (CNEA), peer choice August 2017.

Jefe de Trabajos Prácticos at Insituto Balseiro, Science Department, Universidad Nacional de Cuyo (UNCuyo, licence).

Associated Professor at Sede Andina, Universidad Nacional de Río Negro (UNRN, licence).

Associated Professor at the Double Doctorate in Astrophysics program, Universidad Nacional de San Martín (UNSAM).

Selected for incorporation to CONICET as Adjoint Researcher.

## Education

2012 Doctor in Physics (Ph.D.)
*Institution*: Particles and Fields Group, Centro Atómico Bariloche - Instituto Balseiro, CNEA-UNC. *Thesis*: The Water Cherenkov Detectors of the Pierre Auger Observatory and their Application to
2005 the Study of Background Radiation. *Advisor*: Dr. Ingomar Allekotte. Master in Science, Physics *Orientation*: High Energy Physics. *Institution*: Particles and Fields Group, Instituto Balseiro, Centro Atómico Bariloche (CNEA-UNC). *Thesis*: Event Reconstruction with the Surface Detectors of the Pierre Auger Observatory. *Advisor*: Dr. Ingomar Allekotte
2004 "Licenciado" in Physics
*Institution*: Instituto Balseiro, Centro Atómico Bariloche (CNEA-UNC)

## Research & Teaching Activities

Since I have earned my master degree in December 2005, I have been involved in the following projects:

### Medical Physics Department, CAB,(2016-Present)

Head of the Medical Physics Department (GF-GAIYANN-CNEA). Elected by the members of the Department in May 2017.

Development of simulations and detectors for the calculation and measurement of spatial dose distribution in clinical and high-level dose environments.

### Pierre Auger Observatory (2006-Present)

*See www.auger.org*

Task leader of the "Cosmo-Geophysics" task of the Pierre Auger Observatory, 2014-2018

Data analysis of the Surface Detector

Extensive Atmospheric Shower Physics

Development of the reconstruction event chain of the Surface Detector

Development and applications of the low energy modes (scaler and histogram modes) of the surface detectors of the Pierre Auger Observatory, for the study of transient events (Gamma Ray Bursts and Forbush events), and short and long term modulation of the galactic cosmic rays flux due to solar activity

CORSIKA and detector simulations, oriented to determine the water-Cherenkov response working in the low energy modes

Data analysis of the weather monitoring system of the Pierre Auger Observatory

### Latin American Giant Observatory (LAGO) (2007-Present)

*See lagoproject.org*

Principal Investigator, 2013-2016

Design and execution of the project new organization

Design and coordination of the LAGO Space Weather program

Simulations and data analysis for the detection of transient events (GRB and Forbush events), background radiation and atmospheric physics.

Research, development and building of water-Cherenkov detectors for the LAGO project at Universidad Industrial de Santander and Centro Atómico Bariloche. One of them will be installed at the Antarctic Peninsula.

Design and coordination of the experiment "Measurement of Muon Lifetime in Water", done by undergraduate students at Instituto Balseiro.

### Cherenkov Telescope Array (CTA) (2010-2014)

*See www.cta-observatory.org*

San Antonio de los Cobres site characterization

Research and development of the autonomous station for control and data acquisition of the weather station and sky quality meter installed in San Antonio de los Cobres, Argentina, one of the site candidates for the CTA observatory.

### ANDES Underground Laboratory (2010-2013, 2015-2016, 2018-present)

*See www.andeslab.org*

Estimation and measurements of the expected backgrounds at the ANDES underground lab due to natural radioactivity and high energy atmospheric muons.

Laboratory design.

Teaching (2009-Present)

**2017-present** Associated Profesor, Astroparticle physics, Particle detection techniques, Double Doctorate in Astrophysics program, Universidad Nacional de San Martín (UNSAM)

**2015-present** Associated Profesor, Thermodynamics, Cosmology and Astrophysics, Modern Physics A and Physics II B, Profesorado de Física, Sede Andina, Universidad Nacional de Río Negro (UNRN)

**2014-2015** Professor, Classical Mechanics (Graduate) and General Astronomy, School of Physics, UIS.

**2013-2014** Professor, Introductory Physics course and Introductory Particle Physics course, UIS.

**2014** Design and lecture of the course "Astro-meteorology and Climate Change", intended for High Schools teachers, UIS, March 2014.

**2013** Professor, Advanced Mathematical Methods for Physics course, UIS.

**2009-2012** Senior teaching assistant, Physics I (introductory physics) course, UNRN.

**2010-2012** Teaching assistant, Experimental Physics III and Introduction to nuclear and particle physics courses, Instituto Balseiro (UNC)

**2005** Member of the Academic Committee of the Master in Medical Physics program of the Instituto Balseiro, Universidad Nacional de Cuyo.

## Human Resources Training Summary

At present, I have trained a total of students, PhD students, MSc students and undergraduated students.

## Publication summary

peer review journal publications.

participations and presentations at Schools & Conferences.

technical reports of Comisión Nacional de Energía Atómica and internal technical notes of the Pierre Auger Observatory.

See the complete list of publications, works and scitations in some of the following services:

**ORCID** : orcid.org/0000-0002-4559-8785

**Google Scholar** : scholar.google.com.co/citations?user=Vj7_fGsAAAAJ

**Scopus** : www.scopus.com/authid/detail.url?authorId=35276880300

**Inspire-HEP** : inspirehep.net/author/profile/H.Asorey.1

Hernán Asorey
1st November 2018