

Short curriculum vitae

Member of the **Board of Doctoral Professors** of Milan-Bicocca since 1998.

Member of the **Students Peer Committee** for Degree courses in Physics, Master's Degree in Astrophysics and Space Physics and Master's Degree in Physics of Milano-Bicocca.

Former member of the **Didactic Commission** of the Degree Courses in Physics (2004-2006)

I carry out non-accelerator particle physics experiments, based on the use of bolometers, at the Milano-Bicocca section of INFN and at the Laboratori Nazionali del Gran Sasso (LNGS), in particular for the research of Double Beta Decay (DBD). I have been working with these detectors since their birth, when it was thought that they would never exceed the mg mass scale. Today single detectors of more than 2 kg have been successfully used and we are conducting an experiment (CUORE) on the DBD at LNGS with a total of 750 kg of active material kept at 10 mK. I am among the researchers who have led them to be competitive in many fields, creating detectors for X-rays and alpha particles with much higher energy resolutions than those obtainable with conventional detectors. In addition to neutrino physics, I therefore have professional skills in vacuum technology and ultra low temperatures with a specific interest in the design, construction, implementation and optimization of this kind of detectors. I also have extensive skills in the field of natural radioactivity, that are fundamental for our studies.

International collaborations in the past 20 years

CUORICINO proof of concept for CUORE, years 1999-2003

CUORE from 2004 to today. In the first phase, construction of the CUORE-0 prototype

HOLMES for the direct measurement of the mass of the electronic neutrino, years 2014-2017

BOLUX and subsequently **CUPID-0** for the development of scintillating bolometers, from 2008 to today

Coordination roles

2001-2003 Group Leader of the Milano-Bicocca Research Unit of **COFIN 2001**

2004-2006 Group Leader of the Milano-Bicocca Research Unit of **COFIN 2004**

2007-2009 Group Leader of the Milano-Bicocca Research Unit of **COFIN 2006**

2004-2011 **Team Leader** of CUORE's WG Detector Assembly

2011-2013 **Creator and Coordinator** of the "custom-made bonding" of the 980 bolometers of CUORE

2009-2011 **Chair** of the CUORE Speakers Board

2011-2016 Deputy Chair and then **Chair** of the Collaboration Council of CUORE

2015-2019 **Team Leader** of the IS604 experiment in ISOLDE (CERN)

2018- today Elected member of the CUORE **Executive Board**

2018- today **INFN Group Leader** at Milano-Bicocca for CUORE

Participation in boards

2006-2007 Member of the **Conseil Scientifique du LPC**, Caen (France)

2015- today Member of the **PAC of the Laboratori Nazionali del Sud** of INFN

2009-2016 **Coordinator** of the Scientific Line 2 of the INFN for the Milano-Bicocca Section

2018- today Member of the CUORE Council as **PI of the Milano-Bicocca group**.

2009- today **Referee** on behalf of **MIUR, INFN and NSF (USA)** of international scientific projects with budgets of several million Euros.

2017- today Member of the International Advisory Committee (**IAC**) of the "Conference on Neutrino and Nuclear Physics (**CNNP**)" and of the "International Symposium on Nuclei in the Cosmos" **NIC2018**.

2018- today **Co-chair** of the 18th International Workshop on Low Temperature Particle Detectors (**LTD-18**) in 2019 (about 400 participants) and will organize as **Chair** the "International Neutrino Conference (**NEUTRINO2024**)" (about 1000 participants) in Milan Bicocca.

Publications

Author or co-author of about **200 articles** in scientific journals or conference proceedings.

Held several **invited reviews** to international conferences on Double Beta Decay and low temperature detectors and their applications, and **numerous invited presentations** of personal research activity.

Referee of international scientific journals.