

## MANUEL AGUILAR BENÍTEZ DE LUGO

Born in Madrid, 1943. Graduation in Physics, Universidad Complutense, Madrid, 1965. Ph.D in Physics, Universidad Complutense, Madrid, 1969. Since 1967 has realized long duration stays (> 3 months), adding to more than 12 years, at the *European Laboratory for Elementary Particle Physics* (CERN, Geneva, Switzerland), at the *Brookhaven National Laboratory* (BNL, New York, USA) and at the *Collège de France* (Paris, France) and numerous short and medium duration stays at CERN, at the *Deutsches Elektronen Synchrotron* (DESY, Hamburg, Germany), at the *Lawrence Berkeley National Laboratory* (LBL, Berkeley, USA), at the *Massachusetts Institute of Technology* (MIT, Boston, USA), at the *Kennedy Space Center* (KSC, Cape Canaveral, USA) and at the *Johnson Space Center* (JSC, Houston, USA).

Has participated in High Energy Particle Physics experiments with bubble chambers at the PS and SPS accelerators at CERN and at the AGS accelerator at BNL (1967-1990), in the experiment with the L3 detector at the LEP-CERN electron-positron collider (1989-2000), and has been a member of the CIEMAT team which contributed to the construction of the CMS detector for the LHC-CERN proton-proton and Lead-Lead collider, which started operation in 2009 and which in July 2012 announced **the discovery of the Higgs boson**. From 1997 until 2013, has led the participation of CIEMAT in the AMS (*Alpha Magnetic Spectrometer*) experiment on board of the *International Space Station* (ISS), which in April 2013 announced **the discovery of an excess of cosmic positrons**.

He has been associated to JEN-CIEMAT since 1965. In 1983 he was appointed Head of the Division of Particle Physics and in 1998 Director of the Department of Fusion and Elementary Particle Physics which, in 2004, became the Department of Basic Research. In October 2012 he resigned as Department Director and move to CERN as *Guest Professor* of the Director General. He is, since October 2013, Unpaid Scientific Associate of MIT.

Member of the *Particle Data Group* (PDG) and one of the physicists in charge of the edition of the *Review of Particle Physics* and the *Particle Physics Booklet* (1981-2005). Spanish delegate at the *European Committee for Future Accelerators* (ECFA) (1983-1986). Member of the *CERN Super Proton-Synchrotron Experiments Committee* (SPSLC) (1987-198). Member of the Committee in charge of drafting the *Spanish Steering Plan for High Energy Physics* (1983). Scientific Manager of the *National Program for High Energy Physics* (1996-2000). Scientific Delegate of Spain at the *CERN*

*Council* (2000-2008). Vice President of the *CERN Council* (2004-2007). Member of the *Advisory Committee for Large Scientific Facilities (CAGIC)* and of the *Advisory Committee for Outstanding Scientific Facilities (CAIS)* (2001-2008). Member of Advisory Committees for the evaluation of research programs and the organization of international conferences. Co-Founder in 1973, and organizer of numerous editions of the *International Meeting on Fundamental Physics*. Promoter in 1994 and first President of the *Division of High Energy Physics of the Royal Spanish Physical Society*. Member of the *High Energy Particle Physics Board of the European Physical Society* (1998-2000). Member of the *C11 (Particles and Fields) IUPAP Committee* (2005-2011). Co-Chairman of the *Local Organizing Committee* of the 37<sup>th</sup> *International Conference on High Energy Physics ICHEP 2014*, which took place in Valencia on July 2014.

National Award of the Royal Spanish Physical Society for Young Researchers (1973). Fellow of the Juan March Foundation (1977-1978). National Award of the Royal Academy of Sciences (1980). Medal of the Royal Spanish Physical Society (1981). Scientist of the Year, Magazine CAMBIO 16 (1986). C.E.O.E. Award to Science (1997). Most cited Spanish scientist since 1981, according to the *Institute of Scientific Information (ISI)*. Single Spanish scientist, working in a Spanish Institution, appearing in the list of the 100 most cited scientists in the world in the category of Physical Sciences, according to the *Institute of Scientific Information* (2001).

He has published more than 700 scientific papers in the more prestigious journals and has presented numerous communications in national and international conferences. He has given more than 200 seminars in research centers and university departments. He has been the thesis advisor in twelve occasions.

On June 28, 2000 he was elected Member of the Spanish Royal Academy of Sciences. On April 3, 2002 he read the entrance dissertation “*Particles and Interactions*”. On October 30, 2003 he read at the Royal Academy of Sciences the Opening Lecture of the Academic Year 2013-2014 “*From Hess to Higgs. From the spontaneous ionization of air to the spontaneous symmetry breaking in subatomic physics*”. Since October 2014 he is the President of the Physics and Chemistry Section of the Royal Academy of Sciences.