



**Prof. Fabiola Gianotti**

**Director-General of the European Laboratory for Particle Physics, CERN, Geneva**



**Most important awards, prizes and academies**

Honorary Professor, University of Edinburgh; Corresponding or foreign associate member of the Italian Academy of Sciences (Lincei), the National Academy of Sciences of the United States, the French Academy of Sciences, the Royal Society London, the Royal Academy of Sciences and Arts of Barcelona, the Royal Irish Academy and the Russian Academy of Sciences. Honorary doctoral degrees from: University of Uppsala (2012); Ecole Polytechnique Federale de Lausanne (2013); McGill University, Montreal (2014); University of Oslo (2014); University of Edinburgh (2015); University of Roma Tor Vergata (2017); University of Chicago (2018); University Federico II, Naples (2018); Université de Paris Sud, Orsay (2018); Université Savoie Mont Blanc, Annecy (2018); Weizmann Institute, Israel (2018); Imperial College, London (2019). National honours: Cavaliere di Gran Croce dell'Ordine al Merito della Repubblica, awarded by the Italian President Giorgio Napolitano (2014). Special Breakthrough Prize in Fundamental Physics (shared, 2013); Enrico Fermi Prize of the Italian Physical Society (shared, 2013); Medal of Honour of the Niels Bohr Institute, Copenhagen (2013); Wilhelm Exner Medal, Vienna (2017); Tate Medal of the American Institute of Physics for International Leadership (2019).

## Summary of scientific research

Fabiola Gianotti is a particle physicist working at high-energy accelerators. In her scientific career, she has made significant contributions to several experiments at CERN, including UA2 at the proton-antiproton collider (SpbarpS), ALEPH at the Large Electron-Positron collider (LEP) and ATLAS at the Large Hadron Collider (LHC). She worked on several aspects of these experiments, including detector R&D and construction, software development and data analysis.

Her PhD thesis, on the search for new particles predicted by supersymmetric theories with the UA2 experiment, developed new detection techniques and reported the most stringent limits at the time on the masses of some supersymmetric particles. She continued her work on Supersymmetry in the ALEPH experiment at LEP where she focused on the search for neutralinos, which are among the best candidates for dark matter particles.

She was involved in ATLAS since the beginning of the project, in the early '90s, and she played an important role in all phases of the experiment, from detector R&D to detector design, preparation for data taking and analysis, coordination of the physics activities and project leader ("Spokesperson").

In the early '90s, she was involved in the pioneering work of developing a novel-geometry liquid-argon electromagnetic calorimeter for ATLAS, which later played a crucial role in the observation of the Higgs boson in 2011-2012.

From March 2009 to February 2013 she held the elected position of ATLAS Spokesperson, being responsible for all scientific, technical, organisational, and resource aspects of the experiment. Her work consisted of defining the overall scientific strategy and priorities, supervising the day-to-day work, ensuring the quality of the physics results, and addressing in a timely way a large number of scientific, technical, financial, administrative and human issues. In 2011-2012, the two general-purpose LHC experiments, ATLAS and CMS, gathered increasing evidence of the existence of the Higgs boson, and on 4 July 2012 she presented the ATLAS results in a seminar at CERN which marked the discovery of this very special particle.

In November 2014 she was appointed CERN Director-General with term of office starting on 1 January 2016. In November 2019 she was appointed for a second term of office starting on 1 January 2021. This is the first time in the history of CERN that a Director-General is re-appointed for a full second term. As Director-General she has the responsibility of defining and implementing the scientific and other objectives of the Organization, in accordance with the strategy set by the CERN Council. Her work covers the supervision of the current scientific programme and all the activities needed for the operation of a complex Laboratory; the preparation for CERN's scientific future; the optimum use of CERN's financial and human resources; personnel matters; and the relations with the Member States and other countries, with the European Commission and with other international research institutions and organisations. She also represents the Organization before governments.

## Main publications

She is (co-)author of more than 550 publications in peer-reviewed journals. Referee work:

reviewed 50+ articles for international journals; referee for numerous funding proposals for university grants. Outreach and communication: public lectures, numerous interviews with press and media, articles in scientific and other magazines (e.g. "The usefulness of useless knowledge", *The Economist*, 15 January 2019). Included among the "Top 100 most inspirational women" by *The Guardian* newspaper (UK, 2011), ranked "5th Personality of the Year 2012" by *Time* magazine (USA, 2012), included among the "Top 100 most influential women" by *Forbes* (USA, 2013 and 2017) and the "Leading Global Thinkers of 2013" by *Foreign Policy* magazine (USA, 2013).