Antonino Zichichi

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Most important awards, prizes and academies

Many honours and awards have been conferred upon Antonino Zichichi for his outstanding discoveries and inventions and for his contributions to the promotion of Science and Scientific Culture in Italy and abroad. He is the recipient of over 60 prizes and honorary awards among which: *Doctor Honoris Causa* in the Universities of Beijing, Buenos Aires, Malta, Bucharest, Arizona. *Academies*: Academy of Sciences of the Ukrainian Republic; Academy of Sciences of Georgia; Bologna Academy of Sciences; Pontifical Academy of Sciences. *Honours*: Order of Merit of the Republic of Poland; Order of Merit of the Federal Republic of Germany; Order of Merit of the Italian Republic; Gold Medal for Science and Culture of the President of the Italian Republic. For his discovery of Nuclear Antimatter the Italian Physical Society awarded him, in 2001, the Enrico Fermi Prize, established to celebrate the centennial anniversary of the birth of the great Italian physicist. He founded and directs the Ettore Majorana Centre for Scientific Culture, the first example of the University for the Third Millennium, making Erice famous worldwide. He is past President of the INFN (Italian National Institute for Nuclear Physics), of the EPS (European Physical Society) and of the NATO Science Committee for Disarmament Technology (nuclear, chemical, bacteriological and conventional). Today he is President of the Enrico Fermi Centre, Rome.

Summary of scientific research

Antonino Zichichi is the author of studies and research into the structure of the elementary building blocks and of the fundamental forces of Nature. He has published over 500 scientific papers, some of which have opened new avenues in Subnuclear Physics at High Energies, and has to his credit: the discovery of Nuclear Antimatter [1]; the conjecture of the existence of a Third Lepton [2] and the invention of new technologies [3-4] which led to the discovery of the Third Family in the structure of the fundamental particles [5]; the first direct measurements of the mixing angles in pseudoscalar [6] and vector mesons [7] [8]; the discovery of the 'time-like' electromagnetic structure of the proton [9]; the discovery - in the forces which act between quarks and gluons - of the Effective Energy [10]; the proof that, despite its complex structure, it is impossible to break the proton [11], the ultimate heavy building-block of the Universe; the phenomenological discovery of the EGM effect which lowers by three orders of magnitude the supersymmetry breaking threshold energy [12]. At the present time he is engaged in a series of new experiments [13]; at CERN (Geneva), he directs the LAA project [14] and the TOF project of the ALICE experiment for LHC; at DESY (Hamburg), he takes part in the HERA ZEUS experiment; at Gran Sasso, he directs the LVD experiment.

Main publications

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