

Dezső Horváth, Professor Emeritus
Wigner Research Centre for Physics,
Institute for Particle and Nuclear Physics, Budapest, Hungary

Education, degrees:

- Eötvös Loránd University, Budapest, 1965-1970, MSc thesis: "Spin cut-off factors from (n,2n) reactions for $N < 50$ nuclei" (in Hungarian).
- PhD: Nuclear Physics Dept., Central Research Institute for Physics and Eötvös University, Budapest, 1974-79. Thesis: "Positron annihilation in ionic crystals" (in Hungarian)
- Candidate of Math-Phys Science, Joint Institute for Nuclear Research, Dubna, 1979: "Investigation of intermolecular forces and phase transitions in hydrogen-containing molecules using negative pion capture in hydrogen" (in Russian). Repeated defense of the same thesis in Hungarian at the Hungarian Academy of Sciences, 1979.
- Doctor of Physical Science, Hungarian Academy of Sciences, Budapest, 1987 by the thesis: "Exotic atoms: formation, decay and use in materials sciences" (in Hungarian).
- Doctor of habilitation, University of Debrecen, 1997.

Research Positions:

- Research Associate, Central Research Institute for Physics, Budapest, 1970-1974
- Research Scientist, Joint Institute for Nuclear Research, Dubna, 1974-1979
- Senior Research Scientist, KFKI Institute for Particle and Nuclear Physics, 1979-1987
- Head of Nuclear Physics Department, KFKI Institute for Particle and Nuclear Physics, 1987-1991
- Research Advisor, KFKI Institute for Particle and Nuclear Physics, 1991-2010
- Research Advisor, Atomki Institute of Nuclear Research, Debrecen, Hungary, 1995-2013
- Honorary Professor, University of Debrecen, 2002 - present
- Head of Particle Physics Department, KFKI Institute for Particle and Nuclear Physics, 2010-2013
- Professor Emeritus, Hungarian Academy of Sciences, 2013 - present

Research Activity:

- *Low-energy nuclear physics:* KFKI, Budapest, 1969-1972.
- *Solid state physics:* KFKI, Budapest, Positron annihilation in ionic crystals, 1972-74 and Mössbauer spectroscopy of amorphous solids, 1979-82.
- *Physical chemistry:* JINR, Dubna, USSR, LINP, Gatchina, USSR, and TRIUMF, Vancouver Canada, 1974-87.
Candidate thesis, Dubna and also Budapest: "Intermolecular forces and phase transitions in hydrogenous compounds", 1979
Doctor of Science thesis, Budapest, 1987: "Exotic atoms: their formation, decay and use in materials sciences".
- *Particle physics:* TRIUMF, Vancouver, Canada, 1982-89, Brookhaven National Laboratory, USA, 1987-89; Paul-Scherrer Institute, 1989-93; INFN, Pisa, 1991-94; CERN, 1989-present (Experiments at LEAR, LEP, AD, and LHC).
- *Publications* (according to the InSpire particle physics database, mostly with many authors): 1418 journal publications with 92,104 citations, h-index 122. 7 books, 5 in English, 2 in Hungarian.
- *International conferences:* Organizer and/or invited speaker at dozens of them, 1979 - present.

Teaching Activity:

- Particle Physics 1 and 2, MSc Course, University of Debrecen, 1995 - present
- Development and Experimental Study of the Standard Model, Doctoral Course in Particle Physics in 2 semesters, University of Debrecen, 2000 - present
- Personal supervision of MSc and PhD students
- Organization of scientific schools in Hungary and abroad
- Hundreds of popular talks in the media, at schools, and at open universities, dozens of popular papers
- University textbook "Introduction to Particle Physics" by D. Horváth and Z. Trócsányi published in English by the University of Debrecen in 2014 and by Cambridge Scholars Publishing, England in 2019) and in Hungarian by Typotex Publisher, Hungary in 2017 and 2021.

Visiting scientist at:

- Joint Institute for Nuclear Research, Dubna, Russia, 5 years, 1974-79
- Leningrad Institute of Nuclear Physics, Gatchina, Russia, several months in 1979-81
- TRIUMF, Vancouver, Canada, 2 years, 1982-85
- Brookhaven National Laboratory, USA, 1 year, 1986-87
- University of British Columbia, Canada, 1 year, 1987-88
- Paul-Scherrer-Institute, Villigen, Switzerland, 6 months, 1989-91
- Istituto Nazionale di Fisica Nucleare, Pisa, Italy, 3 years, 1991-94
- University of Tokyo, Hongo, Japan, 4 months, 1997-98
- CERN, Geneva, Switzerland, 3 years + 10-20% of the time, 1994-2019

Project management (projects supervised by Dezső Horváth for joint Budapest-Debrecen-CERN groups):

- OTKA T-1830: "Fundamental physics experiments with ultra-cold antiprotons", research project, 1991-95.
- OTKA T-016660: "Search for Higgs bosons using the OPAL detector at the LEP collider", research project, 1995-99.
- TÉT JAP/R-33/96: "Laser spectroscopy of antiprotonic helium atoms", Japanese cooperation project, 1996-98.
- TÉT JAP-4/98: "ASACUSA: Atomic Spectroscopy and Collisions Using Slow Antiprotons", Japanese cooperation project, 1998-99.
- OTKA T-029328: "Tests of the Standard Model using the OPAL detector at the LEP2 collider", research project, 1999-2002.
- OTKA T-033079: "ASACUSA: Atomic Spectroscopy and Collisions Using Slow Antiprotons", research project, 2000-2003.
- TÉT JAP-4/00 "Test of CPT invariance using slow antiprotons", JP-HU exchange proposal, 2001-2004.
- IKTA-03 Project 72031958: "Establishment of user oriented co-operation between the Hungarian SuperGrid and ClusterGrid systems, RIPNP participation", 2004-2005.
- EU Marie Curie Action TOK 509252: "RIPNP GRID, GRID Computer Station for Handling and Analysing Compact Muon Solenoid Data at RIPNP", cooperation project, Budapest, 2004-2008.
- OTKA T-046095: "Tests of the CPT invariance using slow antiprotons", research project, 2004-2007.
- TÉT JP-21/2006: "Experimental test of the CPT invariance using slow antiprotons", Hungarian-Japanese Intergovernmental S&T Cooperation Project, 2007-2008.
- OTKA NK-067974: "Test of the Standard Model and search for new physics in high-energy proton-proton collisions", research project, 2007-2010.
- EU Research Infrastructures 222667: "Enabling Grids for E-sciencE III, Hungarian Contribution", research project, 2008-10.
- OTKA K-072172: "Study of fundamental symmetries using antiprotons", research project,

2008-2012.

- OTKA H07-C-74153: "Participation in the development of the data analysis system of the CMS experiment at CERN", research project, 2008-2009.
- OTKA NK-081447: "Hungary in the CMS experiment of the Large Hadron Collider", research project, 2010-2013.
- OTKA K-103917: "Antimatter studies at the Antiproton Decelerator of CERN", research project, 2012-2017.
- MTA project to support the organization of the 2013 European School of High-Energy Physics, Parádafürdő, 2013.
- MTA project to support the organization of the International Conference for Precision Experiments and Fundamental Physical Constants, FFK-2015, Budapest, 2015.
- Pallas Athéné Domus Innovationis project to support the CERN school for Hungarian physics teachers, 2017.
- MTA project to support the organization of the International Conference for Precision Experiments and Fundamental Physical Constants in the Eötvös Year, FFK-2019, Tihany, 2019.

Scientific prizes received

- KFKI Institutional Prize for results in computer analysis of nuclear measurements, 1974.
- First Prize of JINR, Dubna for the experimental observation and study of the resonance character of deuterium muonic molecules, 1980.
- Jánossy Prize for clarifying the relation between the chemical bond of hydrogen and pion capture, 1981.
- Selényi Pál Prize of the Roland Eötvös Physical Society for outstanding scientific results, 1989.
- Academy Prize for outstanding scientific results, 2009.
- Széchenyi Prize of Hungary for outstanding scientific results in the field of experimental atomic, nuclear and particle physics, 2012.
- Golden Diplome of Roland Eötvös University for 50 years of outstanding research, 2020.

10 January 2022

Dezső Horváth