

An Evening with
Nobel Prize Winner
Takaaki Kajita



The Mysteries of the Neutrino

Antonio Ereditato, Director of the Laboratory of High Energy Physics (LHEP) of the University of Bern, in conversation with Takaaki Kajita on the occasion of the award of the honorary doctorate by the University of Bern

Friday, December 1, 2017, 6 p.m.
University of Bern, Main Building, Aula
Hochschulstrasse 4, 3012 Bern

u^b

^b
UNIVERSITÄT
BERN

The Mysteries of the Neutrino

In a conversation with Antonio Ereditato, Director of the Laboratory of High Energy Physics (LHEP) of the University of Bern, Nobel Prize Winner Takaaki Kajita will talk about the most fascinating among all elementary particles: the neutrino.

The properties of neutrinos are still largely unknown to us. However, they are crucial for the understanding of our Universe, from its birth to today.

Since the first hypothesis in 1930 to their first detection in 1956, neutrinos have been assumed to be massless particles, just like the photons. However, the discovery of one of their strange properties has proven that indeed they have a mass, although a much smaller one than that of any other elementary particle, and this fact is a real mystery. Since the neutrino has a mass, each of the three neutrino types existing in nature (electron-, muon- and tau-neutrino) can transform into each other during their travel: the so-called neutrino oscillations. Neutrino oscillations were discovered in 1998 by using a huge detector placed underground, under a mountain in Japan.

In their conversation, Antonio Ereditato and Takaaki Kajita will focus on the story of this fundamental discovery.

Takaaki Kajita

Kajita was born in Higashimatsuyama, Saitama, Japan in 1959. He studied at Saitama University and at the University of Tokyo where he received his doctorate in 1986. Since 1988 Kajita is affiliated with the Institute for Cosmic Ray Research, University of Tokyo, and in 2008 he became its director. He is also a professor at the University of Tokyo. In 2015, Takaaki Kajita was awarded the Nobel Prize in Physics (jointly with Canadian physicist Arthur B. McDonald) for his leading role in the detection of the neutrino oscillation. On the occasion of the Dies academicus of the University of Bern on December 2, 2017, Takaaki Kajita will receive an honorary doctorate by the Faculty of Science.

