

Towards a better understanding of our Universe (popular scientific talk)

Thursday, November 5, 2015 6:00 PM (1 hour)

Fundamental research in particle physics is driven by the deep endeavour of mankind to understand the mysteries of the universe: How did it develop? What is it made of? What are the building blocks of matter? Which forces keep them together? The Standard Model of Particle Physics summarizes our today's knowledge on the fundamental structure of matter and forces. One of the outstanding mysteries has been for almost fifty years the question of the generation of particle masses. With the discovery of the Higgs boson by the LHC experiments ATLAS and CMS we have come closer to the answer of this question. In our talks we will present the basic idea behind the Higgs mechanism and how it can explain the origin of masses. We will shed light on the interplay between theoretical ideas and experimental research that led to this fundamental discovery. We will discuss the implications for our understanding of nature and how it will influence and guide our future research.

Presenters: MUEHLEITNER, Margarete M. (KIT); MUELLER, Thomas (KIT)