



## *Séminaire du Laboratoire de l'Accélérateur Linéaire*

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**Vendredi 5 Fevrier 2016 à 11 :00**

## **Towards the Higgs boson : symmetry breaking particles and the origin of mass in early particle physics**

The interest for the Higgs boson which has dominated high energy physics in the last decades is motivated by the link between the Higgs particle and the origin of mass. This connection passes through the so-called Higgs mechanism of spontaneous symmetry breaking, a mathematical construct that emerged in the early 1960s. However, the idea that the origin of mass might be connected to a symmetry-breaking particle having characteristics similar to those of today's Higgs boson had been around at least since the late 1950s, and these early reflections on the origin of mass combined verbal statements with sketchy mathematical arguments which would later be embedded in more complex schemes. In my paper, I will discuss some of the key episodes in these developments up to and including the emergence of spontaneous symmetry breaking and of the Higgs mechanism. I shall present the reflections of more and less prominent authors motivated by a mathematically and physically vague, but intellectually stimulating conviction that the physical origin of mass could be linked to a particle having the same quantum numbers as the vacuum, as Abdus Salam wrote in 1961.

**Salle 101 du LAL - Bât. 200, Orsay**

Thé et café seront servis 5 mn avant le séminaire



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