



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

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**Mardi 6 Mai 2014 à 11 :00**

## **Electroweak symmetry breaking by dynamically generated masses of quarks and leptons**

The origin of the electroweak symmetry breaking is still not known. Among a plethora of alternatives, we follow an approach based on the analogy with the superconductivity. We assume a new dynamics acting among known fermions, quarks and leptons, which causes their condensation. The quarks and lepton condensates are responsible for the quark and lepton mass generation, and they are fixed by the values of quark and lepton masses. Once the fermion masses are dynamically generated, they break dynamically the chiral gauge electroweak symmetry. Then the masses of  $W$  and  $Z$  are given by complicated functions of the fermion masses. Within a simplified model, we show that a condensation of neutrinos, whose masses are suppressed due to a high scale seesaw mechanism, play a crucial role in successful reproducing the correct values of the  $W$  and  $Z$  boson masses, which is the first and mandatory criterion for evaluating the viability of a given approach. We will also present an introduction to this approach.

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

Thé et café seront servis 1/4 h avant le séminaire