



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

**Bruny Baret**

APC - Université Paris 7

**Jour inhabituel**

**Vendredi 11 Mars 2011 à 11 :00**

## **High energy neutrino astronomy, first achievements and future prospects.**

During the last century, astronomy evolved from optical observation to the multiwavelength study of celestial objects from radio waves up to X and gamma rays, leading to a wealth of new discoveries and opening the way to high-energy astroparticle physics. In particular, the recent success of ground-based very high energy gamma ray telescopes have opened a new window on the most powerful and violent objects of the Universe, giving an new insight on the physical processes at work in such sources. In the context of high energy astronomy, neutrinos constitute a unique probe since they escape from their sources, travel undisturbed on virtually cosmological distances and are produced in high energy hadronic processes. In particular they would allow a direct detection and unambiguous identification of the sites of acceleration of high energy baryonic cosmic rays, which remain unknown. I will briefly expose the physics potential of the domain, and review the experiments relevant for the detection of high-energy (above TeV) neutrinos, in particular IceCube and Antares which are now fully operational. The results obtained by the first generation of such detectors will be presented, along with the perspectives opened by new projects and prototypes being currently developed.

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

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



Responsables : N.Leroy (leroy@lal.in2p3.fr) - B. Viaud (viaud@lal.in2p3.fr)  
<http://www.lal.in2p3.fr>