UNIVERSITÉ
DE GENÈVE
FACULTÉ DES SCIENCES
Département de physique
nucléaire et corpusculaire

SEMINAIRE DE PHYSIQUE CORPUSCULAIRE

SUJET : **Particle Acceleration in supernova remnants and its implications for the origin of galactic cosmic rays**

PAR: **Prof. Pasquale BLASI**
INAF, Arcetri Observatory, Firenze

DATE: Mercredi 28 mars 2012, 11h15

LIEU: Science III, Auditoire 1S081
30, quai Ernest-Ansermet, 1211 Genève 4

RESUME:

The process of cosmic ray energization in supernova remnant shocks is described by the theory of non linear diffusive shock acceleration (NLDSA). Such theory is able to describe the acceleration itself, the dynamical reaction of accelerated particles on the shock, and the crucial phenomenon of the magnetic field amplification, the very key to generate high energy cosmic rays. I will illustrate the basic aspects of this theoretical framework, as well as its successes and problems. I will then discuss the observations, in X-rays and with Fermi-LAT and Cherenkov telescopes in the gamma rays that can provide tests of the so-called supernova remnant paradigm for the origin of cosmic rays. The implications of NLDSA for observations of cosmic ray spectra, composition and anisotropy will also be discussed. Finally, I will illustrate some new ideas on particle acceleration in partially ionized media that hold to promise to provide an unprecedented way to look at the sources of cosmic rays.

INFORMATION : http://dpnc.unige.ch/seminaire/annonce.html
ORGANISATEUR: Mrs Gabriella Pasztor