



**UNIVERSITÉ
DE GENÈVE**

FACULTÉ DES SCIENCES
Département de physique
nucléaire et corpusculaire

SÉMINAIRE DE PHYSIQUE CORPUSCULAIRE

SUJET: **Neutrino physics: CP violation... and beyond**

PAR: **Prof. Alain Blondel**
Université de Genève, DPNC

DATE: Mercredi 16 novembre 2016, 11h15

LIEU: Science III, Auditoire 1S081
Boulevard d'Yvoy, 1211 Genève 4

RÉSUMÉ:

The discovery that neutrinos transform into each-other (in the oscillations) demonstrated that they have mass. This is the first concrete experimental particle physics observation that opening into the physics beyond the Standard Model. In the quite general and appealing case neutrino masses are generated both by Dirac (lepton charge conserving) and Majorana (lepton charge violating) mass terms. This results in the existence of three almost sterile right-handed neutrino states, partners of the presently known left-handed ones, possibly responsible for dark matter and/or the baryon asymmetry of the Universe, with a rich phenomenology.

The seminar will review the vast field of experimental research that is thus beckoning:

- Measurement of the mixing parameters of the left-handed neutrinos and determination of the neutrino mass hierarchy and CP violation
- Search for right-handed neutrinos at various mass scales, including neutrino oscillations, X-ray astronomy, and neutrinos produced in charm decays (SHIP) or W and Z decays (LHC, HL-LHC, FCC-ee and FCC-hh).

INFORMATION : <http://dpnc.unige.ch/seminaire/annonce.html>

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