# SEMPARIS – Séminaires en région parisienne

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## Seminar of the theory group of APC

**Mardi 22 Janvier 2019, 14 :00**
APC, 646 A - Mondrian
Domaines : gr-qc

Titre : *Stochastic inflation, primordial black holes, and beyond the slow-roll approximation*

Orateur : **Christopher Pattison ( University of Portsmouth )**

Résumé : *I will explain how primordial black holes can form from perturbations seeded during inflation and how their abundance can be calculated in the framework of stochastic inflation. This formalism incorporates quantum backreaction of the small-wavelength fluctuations on the large distances dynamics of the Universe. If quantum corrections are small, the probability distribution of density fluctuations is well approximated by a Gaussian. If they are large, the PDF has a different profile with a longer tail and leads to constraints different from the ones usually derived. I will also discuss the validity of the stochastic formalism beyond the usual slow-roll approximation, and how, if at all, it must be modified in such regimes.*