# SEMPARIS – Séminaires en région parisienne

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## Seminar of the theory group of APC

**Mardi 26 Novembre 2019, 14 :00**
APC, 646A - Mondrian
Domaines : gr-qc

Titre : *Modified theories of gravity and their tests via gravitational waves*

Orateur : **Pisisn Chen ( National Taiwan University )**

Résumé : *In this talk we will review some selected modified theories of gravity and study their cosmological and astrophysical implications. In particular, we investigate the quasi-normal modes (QNMs) for black hole solutions in the following modified gravity theories : the Palatini f(R) gravity, the EiBI gravity, a class of nonsingular black holes which can be treated as the vacuum solution of a family of conformal gravity theories, and the generalized energy-momentum squared gravity. The master equations describing the QNMs are derived, and the QNM frequencies are evaluated with the Wentzel-Kramers-Brillouin (WKB) method and the eikonal approximation. As expected, the QNM spectra of these modified black holes would deviate from their GR counterparts, indicating the possibility of testing these black hole solutions with the help of future gravitational wave detections.*