

# SEMPARIS – Séminaires en région parisienne

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## Colloquium de l'APC

**Vendredi 15 Juin 2018, 11 :00**

APC, 454A

Domaines : astro-ph

Titre : *Dark matter beyond WIMPs : light, warm, fuzzy and others*

Orateur : **Eric Armengaud ( CEA )**

Résumé : *Many astrophysical and cosmological observations can only be interpreted assuming the existence of a dark matter component in the Universe. However the nature of this physical object remains unknown. The WIMP paradigm, one hypothesis which has been put forward for a long time, is more and more constrained by collider and direct/indirect detection experiments. I will present some other particle-physics-based hypothesis which received increasing attention in the recent years : MeV-scale strongly interacting particles, keV sterile neutrinos or bosons, QCD axions with micro-eV mass, and even lighter axion-like particles down to the fuzzy dark matter scenario at  $10^{-22}$  eV. I will show how experiments or observations can test them, focusing on the small-scale Lyman alpha forest observations which indeed constrain several of these dark matter models.*

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