SEMPARIS – Séminaires en région parisienne
http ://string.lpthe.jussieu.fr/semparis/

Astronomy and Cosmology at ENS

Mercredi 1 Avril 2020, 11 :00
LPENS, L369
Domaines : astro-ph

Titre : *Do supermassive black holes and galaxies evolve in lockstep ?*

Orateur : **Ivan Delvecchio (CEA Saclay)**

Résumé : *Supermassive black holes (SMBHs) are tightly correlated with their hosts, but the origin of such connection remains elusive. First, I will briefly overview the state-of-the-art of SMBHs-galaxy evolution, highlighting the most debated issues of the field. Later, I will present an empirically-motivated toy model that tracks galaxy and SMBH growth since z 10 down to z=0. An intriguing result is that SMBHs and galaxies do not seem to evolve in lockstep at all times, contrary to the common idea of co-evolution. Nevertheless, this study is well supported by recent observations and simulations. Moreover, our modeling naturally explains the anti- hierarchical behaviour of galaxy and SMBHs, the dearth of low-mass BHs and the assembly of local scaling relations at z 0. Last but not least, I will discuss some exciting prospects of the field with new upcoming facilities.*