



Séminaire organisé par

**AIM & Le service d'Astrophysique  
CEA/DSM/Irfu**



## **WITNESSING THE ASSEMBLY OF GALAXIES UP TO $z \sim 2$ : LINKING STARS, DARK MATTER HALOS AND GAS**

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While the large-scale structure and cosmological properties are globally understood, the mass assembly and star-formation in galaxies, especially for the massive systems, continues to challenge existing models.

I am taking advantage of several Panchromatic deep and large optical/near-infrared surveys, such as the UKIDSS-UDS, AEGIS-POWIR and PanSTARRs surveys, combined with spectroscopic data-sets and submillimeter data to explore the assembly history of galaxies up to  $z \sim 2$ .

As the large-scale behaviour of galaxies is ruled by their dark matter content, an estimate of the mass of their dark matter halos is crucial to gain a good understanding of the history of their mass assembly.

I will demonstrate that the baryonic mass of galaxies are not as well correlated to the mass of their dark matter haloes as expected. To understand better the origin of such discrepancy, I am exploring the two only ways for such galaxies to gather baryonic mass, their merging and star-formation history, as well as the properties of their molecular gas.

**04 octobre 2012**

**11h00 Salle Galilée bât 713 C - Orme des Merisiers**



**Un café sera servi 15 mn avant le séminaire**