Direction des Sciences de la Matière
IRFU
Service d'Astrophysique

# SEMINAIRE du Service d'Astrophysique

## TRIGGER MECHANISMS AND EVOLUTION OF ULIRGS: LOCAL VS HIGH-Z

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**lundi 22 septembre 2008**

**11h00**

I will discuss results from NIR spectroscopic/imaging programs that aim to determine thedynamical triggers and the time evolution of ULIRGs. For the local sample, I will present a stellar kinematical analysis performed using the long-slit spectrograph ISAAC mounted on the VLT. The low moments of the stellar velocity profiles, extracted from the CO bandheads, indicate that local ULIRGs are typically triggered by mergers of equal-mass, sub-m*, gas-rich galaxies and lead to the formation of moderate-mass ellipticals. The position of ULIRG remnants on the fundamental plane of early-type galaxies is well constrained in comparison with that of remnants of other interaction/merger categories (e.g. LIRGs) and that they are less massive than local Palomar-Green (PG) QSOs. This result implies that only a subsample of the local ULIRGs and PG QSOs can be part of the same evolutionary sequence. At redshifts ~2, NICMOS2 images of 24-micron selected ULIRGs show small fraction of perturbations in contrast to both z~2 submm galaxies and local ULIRGs. This could be attributed to different properties in the stellar/ISM distribution between the two populations or selection effects. A bulge/disk decomposition of the brightest sources indicates that if bulges are indeed present, they are small. Therefore, at least a non-negligible number of z~2 ULIRGs dynamically differs from their local analogues.

**Ce séminaire aura lieu au CEA Saclay – Orme des Merisiers – bâtiment 709, Salle 220.**

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