



PHYSICS AND ASTRONOMY SEMINAR

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“The role of the environment on galaxy evolution and the VESTIGE survey”

Abstract

The environment plays a major role in shaping galaxy evolution. Different physical mechanisms have been proposed to explain the observed differences between field and cluster galaxies. These include gravitational perturbation between galaxies or with the cluster potential well, and interactions with the hot and dense intracluster medium. Several recent studies on the identification of the dominant perturbing mechanism in high density regions in the local universe obtained thanks to the analysis of large statistical samples or to the detailed study of well resolved representative objects give contradictory results. I will briefly discuss how these results compare with the predictions of semianalytic models and cosmological simulations and explain the possible origins of the observed discrepancies. I will then introduce the VESTIGE survey, a blind, narrow-band H α imaging survey carried out with MegaCam at the CFHT (2017-2019 Large Program) to map the whole Virgo cluster region up to one virial radius. This survey has been designed to study at an unprecedented sensitivity and angular resolution the effects of the environment on cluster galaxies through the observation of the ionised gas component, ideal tracer of an ongoing perturbation. I will summarise the first results obtained after the first observing semester.

Thursday, November 23, 2017

1:00 p.m.

David Strong Building

Room C126