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## The Fornax Deep Survey: the evolution of dwarf galaxies

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It has long been known that the environment is a strong driver of galaxy evolution. Although this morphology-density relation is strong for massive galaxies, it is even stronger for dwarfs, because the lower gravitational potential of dwarf galaxies makes it easier for the cluster environment to affect them. For this reason dwarf galaxies are ideal to trace environmental processes in galaxy clusters.

Using the new capabilities provided by OmegaCAM we have, in the last 4 years, performed a deep optical survey of Fornax, one of the nearest galaxy clusters, named the Fornax Deep Survey (FDS, PI's Peletier and Iodice). Its u',g',r',i' observations image an area of 26 square degrees, covering the cluster inside the virial radius and also the Fornax A sub-group. The data go about 3 magnitudes deeper than the previous complete survey, the FCC (Ferguson 1989). The survey has already led to publication of several papers, which have demonstrated the usefulness of such deep high resolution data in various different scientific cases. The survey has been fully reduced, and survey papers presenting a complete sample of cluster members and their properties will appear soon (Peletier et al. 2018, Venhola et al. 2018ab). In this talk I will discuss the results of this study of dwarf galaxies, including scaling relations involving morphology, stellar populations, as well as the luminosity function, and variations of galaxy properties as a function of distance from the cluster center. Based on these I will zoom in on how galaxies evolve in the Fornax cluster, and how this differs from the larger Virgo and Coma clusters.

**Presenter:** PELETIER, R.