

# SAIP2014



Contribution ID : 69

## **Kinematics and stellar populations of dwarf ellipticals in the Fornax cluster.**

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### **Abstract :**

Despite being the most abundant galaxy type in galaxy clusters, the evolution of dwarf elliptical galaxies (dEs) in clusters is not well understood. Galaxy clusters serve as ideal laboratories to address the fundamental question of how environmental influence governs galaxy evolution. So the question of the origin of low surface brightness early-type dwarfs in clusters is key to determining the role of the environment in the formation of galaxies over cosmic time. Recent spectroscopic observations of dwarf galaxies in the Virgo cluster have shown that at least some of the brighter dEs may be descendants of rotationally supported gas-rich systems. A complete magnitude limited sample of 20 dEs in the Fornax cluster will be studied using dynamical modelling, scaling relations and stellar population analysis. We will study both the rotational support and stellar populations as a function of radius in these dwarf galaxies. We will compare the results of our analysis with recently obtained results for dEs in the Virgo cluster and with simulated models of galaxy evolution in clusters. Our spectroscopic survey will be complemented with ultra-deep surface photometry from the FOCUS survey which aims to provide a deep 5-band photometric survey of Fornax using OmegaCAM at VST, ESO at a similar depth as the NGVS survey of Virgo. Important constraints on the evolution and amount of rotational support of dEs in the Fornax cluster may be provided. Preliminary results will be presented.

### **Award :**

Yes

### **Level :**

PhD

### **Supervisor :**

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### **Paper :**

Yes

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