

# The Third National Workshop on the SKA Project - The Italian Route to the SKAO Revolution



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## ISM stripping or starvation? The formation of an S0 galaxy in the Fornax cluster

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The MeerKAT Survey of the Fornax galaxy cluster, which is 25% complete, revealed the presence of a HI-rich S0 galaxy in the center ( $\sim 0.4 R_{\text{vir}}$ ) of Fornax: NGC 1436. This finding provides us with a good opportunity to test the current hypotheses of starvation and ISM stripping often invoked to account for the formation of S0 galaxies in clusters.

Our MeerKAT data ( $N(\text{HI}) \sim 10^{18} \text{ cm}^{-2}$ ) show a truncated HI disc confined within the stellar body of NGC 1436. Star formation is still on-going within the truncated HI disc, as shown by optical, radio continuum and molecular gas images.

Using MUSE data, we are estimating the star formation history in the inner and outer part of NGC 1436 to understand the cause of the HI disc truncation and evaluate how rapidly the galaxy has used/lost its cold gas reservoir. Our ultimate goal is to determine whether starvation or ISM stripping is the main process which has shaped the HI content of NGC 1436.

### Research area

HI galaxy science

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