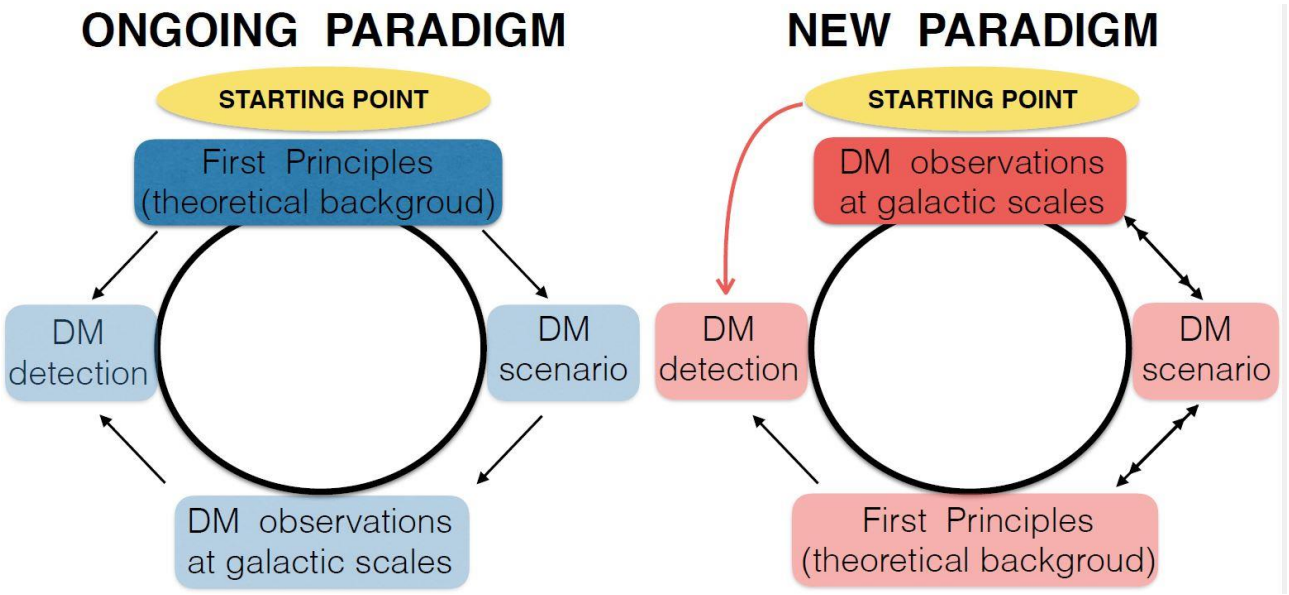
We propose a PhD thesis on the argument :

PARADIGMS AND SCENARIOS FOR THE DARK MATTER PHENOMENON



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Well known scaling laws among the structural properties of the dark and the luminous matter in local galaxies are too complex to be arisen by two inert components that just share the same gravitational field.

This brings us to critically focus on the 30 year old paradigm, that, resting on a priori knowledge of the nature of dark matter (DM), has led us to a restricted number of scenarios, especially favouring the collisionless ΛCold Dark Matter one.

Motivated by such ongoing observational evidence, we propose to resolve the dark matter mystery by following a new paradigm: the nature of DM must be guessed/derived by deeply analyzing the properties of the dark and luminous mass distribution at galactic scales. Available new and old data will allow the student to initiate the adventure of discovering the true nature of the dark matter.

Eventual student will be asked to enter in the Iniziativa Specifica INFN Qgsky, Gruppo 4. Collaboriations with INFN staff and associated are welcome.

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